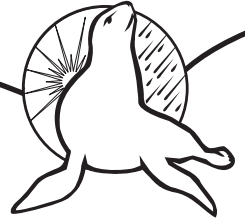


# Energy Seal Coatings



## WARRANTY SPECIFICATIONS FOR COATING **CAPSHEET ROOFING**

### 1.0 SCOPE

The intention of this specification is to outline the procedures for the application of Energy Seal Coatings reflective roof coatings for the purpose of coating **CAPSHEET** roof surfaces. These suggested specifications describe materials, methods and conditions necessary for the proper application of Energy Seal Coatings. Actual application requirements are the responsibility of the installer.

### 2.0 MATERIALS

All Materials used shall be manufactured by and or approved by Advanced Coating Systems, Inc. Please refer to our product data sheets for technical specifications:

#### 2.1 Elastomeric Coating System

<b>ACU-SHIELD</b>	Acrylic, elastomeric roof coating.
<b>ACU-CAULK:BG</b>	Acrylic, elastomeric brush grade caulk.
<b>ACU-CAULK:FG</b>	Fibered, acrylic, reinforced, elastomeric flashing grade caulk.
<b>ACU-PRIME ALL</b>	Durable primer for non-metal or non-rusted metal surfaces.
<b>ACU-GLOSS</b>	Clear acrylic finish.
<b>ACU-FABRIC</b>	Spunbound polyester reinforcing scrim.

#### 2.2 Delivery and storage:

2.3 Materials shall be delivered in their original, tightly sealed containers or unopened packages, all clearly labeled with the manufacturer's name, file number, and batch numbers.

2.4 Materials shall be stored out of the weather in their original tightly sealed containers or unopened containers as recommended by the manufacturer. Do not allow liquid coating to freeze.

### 3.0 SURFACE PREPARATION

3.1 Preparation shall include all requirements specified by Advanced Coating Systems, Inc., to ensure proper adhesion of the Energy Seal Coatings products to the existing substrate. **New CAPSHEET roof surfaces shall be allowed to cure a minimum of 90 days prior to application.**

3.2 Preparation shall include but not limited to the following:

3.3 All unnecessary and non-functional equipment and debris shall be removed from the roof.

3.4 Substrate must be pressure-washed. A minimum working pressure of 3,000 psi shall be used to remove all dirt, dust, previous paints & coatings which are delaminating as well as waste products (oil, oil-based roof cements, solvents, grease, animal fats, etc). Use TSP (Tri Sodium Phosphate) or a similar cleaning solution. Thoroughly rinse roof surface to make sure there is no residue left from the cleaning agent.

3.5 HVAC condensate drains shall be permanently routed to roof drains or off roof so as to not adversely affect roof coating system.

3.6 Determine moisture content underlying the **CAPSHEET** membrane. A moisture content of 15% or greater indicates a potential problem. Work shall not proceed until the cause of high moisture content is verified and the condition is corrected.

- 3.7 Inspect the condition of flashing details adjacent to protrusions, penetrations, roof mounted equipment, curbs, walls, parapets, drains and roof edge to ensure that details are acceptable and will maintain a weather-tight installation after properly reinforced and coated.
- 3.8 Ponding Water: Contractor shall mechanically eliminate all ponding water areas on the roof prior to application of roof coatings ("Ponding water" is defined as water which does not properly drain and remains for more than 48 hours).
- 3.9 Any unsound areas in the roof deck or insulation, including blisters, delimitation, deterioration, excessive moisture content, etc. shall be repaired or replaced. All blisters, delimitations, wrinkles and loose areas shall either be cut away and removed, or cut open and mailed flat to the roof deck. Secure/ replace loose underlying fasteners. Relocate fasteners no more than six inches from original location.
- 3.10 Reinforce all repaired areas by applying a heavy coat of ACU-TAC on an around the repair at a rate of 100 square feet per gallon. While the ACU-TAC is still wet apply an appropriate size piece of ACU-FABRIC on top of the repair area, allowing ACU-FABRIC to overlap onto sound roof surface; assure that there is a heavy coat of ACU-TAC under the overlap. Make sure there are no wrinkles, puckers or folds in the ACU-FABRIC. Apply a second coat of ACU-TAC on top of the ACU-FABRIC as a rate of 100 square feet per gallon using a 6" deck brush, making sure the ACU-FABRIC is completely saturated with no wrinkles or puckers. Allow 24 hours to dry before top coating with ACU-SHIELD.
- 3.11 All cracks, splits, voids or holes larger than 1/8" in width shall be filled and leveled with ACU-CAULK:FG.
- 3.12 Reinforce all seams, parapet terminations along with roof terminations and flashing's, around drains, scuppers and skylights, the base of all vents and around any other penetration with one of the following:
1. - Apply a heavy coat of ACU-CAULK:BG around the area to be detailed. Place a appropriate strip of ACU-FABRIC onto the wet ACU-CAULK:BG. Work ACU-FABRIC into ACU-CAULK:BG using a brush, roller, or soft bristle deck broom to eliminate air pockets, puckers, wrinkles, gaps or folds, applying ACU-CAULK:BG as necessary to fully encapsulate the ACU-FABRIC. Make sure to extend the ACU-CAULK:BG at least 4" past the ACU-FABRIC.
  2. - Apply a heavy coat of ACU-CAULK:FG to the perimeter of the penetration to a thickness of 40 - 60 mils. Feather out the edges at least 4" past the repaired area.
  3. - Applying a heavy coat of ACU-TAC on an around the repair at a rate of 2.5 gallons per 100 square feet. While the ACU-TAC is still wet apply an appropriate size piece of ACU-FABRIC on top of the repair area, allowing ACU-FABRIC to overlap onto sound roof surface; assure that there is a heavy coat of ACU-TAC under the overlap. Make sure there are no wrinkles, puckers or folds in the ACU-FABRIC. Apply a second coat of ACU-TAC on top of the ACU-FABRIC at a rate of 2.5 gallons per 100 square feet using a 6" deck brush, making sure the ACU-FABRIC is completely saturated with no wrinkles or puckers.

#### **4.0 COATING APPLICATION**

- 4.1 Examine substrate to receive roof coating. Do not proceed with installation of Energy Seal Coatings until unsatisfactory conditions have been corrected in a manner acceptable to the manufacturer.
- 4.2 Use a wet film gauge to determine coating thickness every 500 sq.ft. The wet film thickness should be at least twice as thick as the desired dry film thickness per coat. For instance, one coat of ACU-SHIELD is to be applied at a thickness of 10 DRY mils. The wet film thickness should be 20 mils.
- 4.3 Entire roof shall be primed with ACU-PRIME ALL at a rate of 200 square feet per gallon. ACU-PRIME ALL must be allowed to cure for 24 hours.
- 4.4 Apply ACU-SHIELD elastomeric coating by airless spray equipment, using a mulit-pass spray technique to ensure even application to the CAPSHEET. Use a wet film gauge often to measure film thickness. Wet film thickness should be twice as thick as the desired dry film thickness.
- 4.5 Apply first coat of ACU-SHIELD: First coat shall be applied perpendicular to the seams of the CAPSHEET roofing. Dry film thickness shall be approximately 10 mils.

- 4.6 Apply second coat of ACU-SHIELD: Second coat shall be applied parallel to the first coat. Dry film thickness shall be approximately 10 mils.
- 4.7 Apply third coat of ACU-SHIELD: Third coat shall be applied perpendicular to the second coat. Dry film thickness shall be approximately 10 mils.
- 4.8 Apply ACU-GLOSS clear acrylic coating is to be applied only after the ACU-SHIELD has thoroughly cured and dried for at least 24 hours.
- 4.9 Each coat must be allowed to cure for 24 - 48 hours depending on humidity and temperature. The roof is to be inspected for defects, flaws or holidays and repaired if necessary before a subsequent coat is applied.

## 5.0 APPLICATION RATES

- 5.1 **Standard** 10-year warranty: Detail as per 3.12. Apply ACU-PRIME ALL (see 4.3) Apply two coats of ACU-SHIELD (see 4.5 - 4.6) at a rate of 1.0 gal./100 sq.ft., per coat. Minimum dry film thickness 20 mils, excluding seam, flashing, joints and other detail areas.
- 5.2 **Extended** 12-year warranty: Detail as per 3.12. Apply ACU-PRIME ALL (see 4.3) Apply two coats of ACU-SHIELD (see 4.5 - 4.6) at a rate of 1.0 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-SHIELD at a rate of 1.0 gal./ 200 sq.ft. (see 4.8). Minimum dry film thickness 20 - 23 mils, excluding seam, flashing, joints and other detail areas.
- 5.3 **Elite** 15-year warranty: Detail as per 3.10 Apply ACU-PRIME ALL (see 4.3) Apply three coats of ACU-SHIELD (see 4.5 - 4.7) at a rate of 1.0 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-SHIELD at a rate of 1.0 gal./ 200 sq.ft. (see 4.8). Minimum dry film thickness 30 - 33 mils, excluding seam, flashing, joints and other detail areas.

## 6.0 RESTRICTIONS / LIMITATIONS

- 6.1 This system is to be used only in conjunction with commonly accepted roofing standards but not limited to the following:
- 6.2 No application of materials shall commence during inclement weather or when precipitation is imminent. **No thinning of materials is permitted.**
- 6.3 No materials are to be applied to wet, dirty, or frozen surfaces.
- 6.4 No materials are to be applied at temperatures below 40° F.
- 6.5 Do not apply when dew point is within 5°F of of the surface temperature or if freezing temperatures (32°F or lower) are forecasted for the following 24 hours after application of coating products.
- 6.6 No materials are to be applied at ambient air temperatures above 100° F.
- 6.7 No materials are to be applied at relative humidity levels above 88%.
- 6.8 Do not spray apply if the wind velocity exceeds 10 mph without taking precautions to eliminate over spray.
- 6.9 Take all necessary precautions to protect unrelated surfaces from coating over spray or spillage
- 6.10 In conjunction with the final inspection, all debris, containers, materials and equipment are to be properly removed from the job site. Grounds are to be cleaned undamaged and acceptable to the owner.
- 6.11 Reflectivity of coatings may be reduced if roof surface is not cleaned on a regularly scheduled basis.
- 6.12 Ponding water areas must be repaired prior to any coating application to allow water to drain off the roof.

**CAUTION:** Do not apply within two hours of sunset, rain, fog or freezing temperatures. Energy Seal Coatings must be completely dry before exposing to water or foot traffic. Keep Energy Seal Coatings containers covered when not in use. Dispose of all containers in accordance with state and local environmental regulations. Keep away from children. If ingested, DO NOT induce vomiting. Call Physician immediately.

Our suggested installation specifications are based on information from laboratory and field testing which we believe to be reliable and correct; however, accuracy and completeness of said tests are not guaranteed and not to be construed as a warranty, either expressed or implied. Since the use of the material is beyond manufacturer's control, buyer assumes all risk whatsoever as to their use or results obtained. We guarantee our products to conform to Advanced Coating Systems, Inc. quality control. Advanced Coating Systems, Inc. warrants only the standard quality of material. Manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proved to be defective.

*Manufactured by Advanced Coating Systems, Inc.*

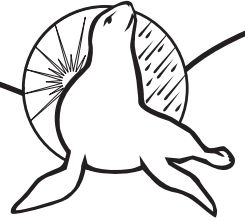
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**800-587-3758**



# Energy Seal Coatings



## WARRANTY SPECIFICATIONS FOR COATING **CONCRETE ROOFING**

### 1.0 SCOPE

The intention of this specification is to outline the procedures for the application of Energy Seal Coatings reflective roof coatings for the purpose of coating **CONCRETE** roof surfaces. These suggested specifications describe materials, methods and conditions necessary for the proper application of Energy Seal Coatings. Actual application requirements are the responsibility of the installer.

### 2.0 MATERIALS

All Materials used shall be manufactured by and or approved by Advanced Coating Systems, Inc. Please refer to our product data sheets for technical specifications:

#### 2.1 Elastomeric Coating System

<b>ACU-SHIELD</b>	Acrylic, elastomeric roof coating.
<b>ACU-CAULK:BG</b>	Acrylic, elastomeric brush grade caulk.
<b>ACU-CAULK:FG</b>	Fibered, acrylic, reinforced, elastomeric flashing grade caulk.
<b>ACU-PRIME ALL</b>	Durable primer for non-metal or non-rusted metal surfaces.
<b>ACU-GLOSS</b>	Clear acrylic finish.
<b>ACU-FABRIC</b>	Spunbound polyester reinforcing scrim.

#### 2.2 Delivery and storage:

2.3 Materials shall be delivered in their original, tightly sealed containers or unopened packages, all clearly labeled with the manufacturer's name, file number, and batch numbers.

2.4 Materials shall be stored out of the weather in their original tightly sealed containers or unopened containers as recommended by the manufacturer. Do not allow liquid coating to freeze.

### 3.0 SURFACE PREPARATION

3.1 Preparation shall include all requirements specified by Advanced Coating Systems, Inc., to ensure proper adhesion of the Energy Seal Coatings products to the existing substrate. **New CONCRETE roof surfaces shall be allowed to cure a minimum of 30 days prior to application.**

3.2 Preparation shall include but not limited to the following:

3.3 All unnecessary and non-functional equipment and debris shall be removed from the roof.

3.4 Substrate must be pressure-washed. A minimum working pressure of 3,000 psi shall be used to remove all dirt, dust, previous paints & coatings which are delaminating as well as waste products (oil, oil-based roof cements, solvents, grease, animal fats, etc). Use TSP (Tri Sodium Phosphate) or a similar cleaning solution. Thoroughly rinse roof surface to make sure there is no residue left from the cleaning agent.

3.5 HVAC condensate drains shall be permanently routed to roof drains or off roof so as to not adversely affect roof coating system.

- 3.6 Determine moisture content of the **CONCRETE** roof deck. A moisture content of 15% or greater indicates a potential problem. Work shall not proceed until the cause of high moisture content is verified and the condition is corrected.
- 3.7 Inspect the condition of flashing details adjacent to protrusions, penetrations, roof mounted equipment, curbs, walls, parapets, drains and roof edge to ensure that details are acceptable and will maintain a weather-tight installation after properly reinforced and coated.
- 3.8 Ponding Water: Contractor shall mechanically eliminate all ponding water areas on the roof prior to application of roof coatings ("Ponding water" is defined as water which does not properly drain and remains for more than 48 hours).
- 3.9 Unsound areas including deterioration, pitted or spalled concrete, etc., shall be repaired or replaced with an appropriate high strength, polymer concrete repair mix. Assure the repaired area is level with the surrounding substrate.
- 3.10 Spalled sections of concrete should be resurfaced using an appropriate concrete repair mix.
- 3.11 All cracks, splits, voids or holes larger than 1/8" in width shall be filled and leveled with ACU-CAULK:FG.
- 3.12 Reinforce all cracks and/or seams, parapet terminations along with roof terminations and flashing's, around drains, scuppers and skylights, the base of all vents and around any other penetration with one of the following:
1. - Apply a heavy coat of ACU-CAULK:BG around the area to be detailed. Place a appropriate strip of ACU-FABRIC onto the wet ACU-CAULK:BG. Work ACU-FABRIC into ACU-CAULK:BG using a brush, roller, or soft bristle deck broom to eliminate air pockets, puckers, wrinkles, gaps or folds, applying ACU-CAULK:BG necessary to fully encapsulate the ACU-FABRIC. Make sure to extend the ACU-CAULK:BG at least 4" past the ACU-FABRIC.
  2. - Apply a heavy coat of ACU-CAULK:FG to the perimeter of the penetration to a thickness of 40 - 60 mils. Feather out the edges at least 4" past the repaired area.
  3. - Applying a heavy coat of ACU-TAC on an around the repair at a rate of 2.5 gallons per 100 square feet. While the ACU-TAC is still wet apply an appropriate size piece of ACU-FABRIC on top of the repair area, allowing ACU-FABRIC to overlap onto sound roof surface; assure that there is a heavy coat of ACU-TAC under the overlap. Make sure there are no wrinkles, puckers or folds in the ACU-FABRIC. Apply a second coat of ACU-TAC on top of the ACU-FABRIC at a rate of 2.5 gallons per 100 square feet using a 6" deck brush, making sure the ACU-FABRIC is completely saturated with no wrinkles or puckers.

#### 4.0 COATING APPLICATION

- 4.1 Examine substrate to receive roof coating. Do not proceed with installation of Energy Seal Coatings until unsatisfactory conditions have been corrected in a manner acceptable to the manufacturer.
- 4.2 Use a wet film gauge to determine coating thickness every 500 sq.ft. The wet film thickness should be at least twice as thick as the desired dry film thickness per coat. For instance, one coat of ACU-SHIELD is to be applied at a thickness of 10 DRY mils. The wet film thickness should be 20 mils.
- 4.3 Entire roof shall be primed with ACU-PRIME ALL at a rate of 200 square feet per gallon. ACU-PRIME ALL must be allowed to cure for 24 hours.
- 4.4 Apply ACU-SHIELD elastomeric coating by airless spray equipment, using a mulit-pass spray technique to ensure even application to the **CONCRETE** roof surface. Use a wet film gauge often to measure film thickness. Wet film thickness should be twice as thick as the desired dry film thickness.

- 4.5 Apply first coat of ACU-SHIELD: First coat shall be applied perpendicular to the seams of the **CONCRETE** roof surface. Dry film thickness shall be approximately 10 mils.
- 4.6 Apply second coat of ACU-SHIELD: Second coat shall be applied parallel to the first coat. Dry film thickness shall be approximately 10 mils.
- 4.7 Apply third coat of ACU-SHIELD: Third coat shall be applied perpendicular to the second coat. Dry film thickness shall be approximately 10 mils.
- 4.8 Apply ACU-GLOSS clear acrylic coating is to be applied only after the ACU-SHIELD has thoroughly cured and dried for at least 24 hours.
- 4.9 Each coat must be allowed to cure for 24 - 48 hours depending on humidity and temperature. The roof is to be inspected for defects, flaws or holidays and repaired if necessary before a subsequent coat is applied.

## 5.0 APPLICATION RATES

- 5.1 **Standard** 10-year warranty: Detail as per 3.12. Apply ACU-PRIME ALL (see 4.3) Apply two coats of ACU-SHIELD (see 4.5 - 4.5) at a rate of 1.0 gal./100 sq.ft., per coat. Minimum dry film thickness 20 mils, excluding seam, flashing, joints and other detail areas.
- 5.2 **Extended** 12-year warranty: Detail as per 3.12. Apply ACU-PRIME ALL (see 4.3) Apply two coats of ACU-SHIELD (see 4.5 - 4.6) at a rate of 1.0 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-SHIELD at a rate of 1.0 gal./ 200 sq.ft. (see 4.8). Minimum dry film thickness 20 - 23 mils, excluding seam, flashing, joints and other detail areas.
- 5.3 **Elite** 15-year warranty: Detail as per 3.12 Apply ACU-PRIME ALL (see 4.3) Apply three coats of ACU-SHIELD (see 4.5 - 4.7) at a rate of 1.0 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-SHIELD at a rate of 1.0 gal./ 200 sq.ft. (see 4.8). Minimum dry film thickness 30 - 33 mils, excluding seam, flashing, joints and other detail areas.

## 6.0 RESTRICTIONS / LIMITATIONS

- 6.1 This system is to be used only in conjunction with commonly accepted roofing standards but not limited to the following:
- 6.2 No application of materials shall commence during inclement weather or when precipitation is imminent. **No thinning of materials is permitted.**
- 6.3 No materials are to be applied to wet, dirty, or frozen surfaces.
- 6.4 No materials are to be applied at temperatures below 40° F.
- 6.5 Do not apply when dew point is within 5°F of of the surface temperature or if freezing temperatures (32°F or lower) are forecasted for the following 24 hours after application of coating products.
- 6.6 No materials are to be applied at ambient air temperatures above 100° F.
- 6.7 No materials are to be applied at relative humidity levels above 88%.
- 6.8 Do not spray apply if the wind velocity exceeds 10 mph without taking precautions to eliminate over spray.
- 6.9 Take all necessary precautions to protect unrelated surfaces from coating over spray or spillage
- 6.10 In conjunction with the final inspection, all debris, containers, materials and equipment are to be properly removed from the job site. Grounds are to be cleaned undamaged and acceptable to the owner.
- 6.11 Reflectivity of coatings may be reduced if roof surface is not cleaned on a regularly scheduled basis.
- 6.12 Ponding water areas must be repaired prior to any coating application to allow water to drain off the roof.

**CAUTION:** Do not apply within two hours of sunset, rain, fog or freezing temperatures. Energy Seal Coatings must be completely dry before exposing to water or foot traffic. Keep Energy Seal Coatings containers covered when not in use. Dispose of all containers in accordance with state and local environmental regulations. Keep away from children. If ingested, DO NOT induce vomiting. Call Physician immediately.

Our suggested installation specifications are based on information from laboratory and field testing which we believe to be reliable and correct; however, accuracy and completeness of said tests are not guaranteed and not to be construed as a warranty, either expressed or implied. Since the use of the material is beyond manufacturer's control, buyer assumes all risk whatsoever as to their use or results obtained. We guarantee our products to conform to Advanced Coating Systems, Inc. quality control. Advanced Coating Systems, Inc. warrants only the standard quality of material. Manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proved to be defective.

*Manufactured by Advanced Coating Systems, Inc.*

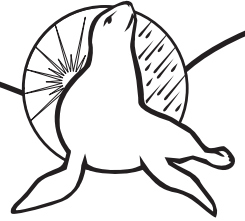
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# Energy Seal Coatings



## WARRANTY SPECIFICATIONS FOR COATING EPDM ROOFING

### 1.0 SCOPE

The intention of this specification is to outline the procedures for the application of Energy Seal Coatings reflective roof coatings for the purpose of coating **EPDM** roof surfaces. These suggested specifications describe materials, methods and conditions necessary for the proper application of Energy Seal Coatings. Actual application requirements are the responsibility of the installer.

### 2.0 MATERIALS

All Materials used shall be manufactured by and or approved by Advanced Coating Systems, Inc. Please refer to our product data sheets for technical specifications:

#### 2.1 Elastomeric Coating System

<b>ACU-SHIELD</b>	Acrylic, elastomeric roof coating.
<b>ACU-CAULK:BG</b>	Acrylic, elastomeric brush grade caulk.
<b>ACU-CAULK:FG</b>	Fibered, acrylic, reinforced, elastomeric flashing grade caulk.
<b>ACU-PRIME ALL</b>	Durable primer for non-metal or non-rusted metal surfaces.
<b>ACU-GLOSS</b>	Clear acrylic finish.
<b>ACU-FABRIC</b>	Spunbound polyester reinforcing scrim.

#### 2.2 Delivery and storage:

2.3 Materials shall be delivered in their original, tightly sealed containers or unopened packages, all clearly labeled with the manufacturer's name, file number, and batch numbers.

2.4 Materials shall be stored out of the weather in their original tightly sealed containers or unopened containers as recommended by the manufacturer. Do not allow liquid coating to freeze.

### 3.0 SURFACE PREPARATION

3.1 Preparation shall include all requirements specified by Advanced Coating Systems, Inc., to ensure proper adhesion of the Energy Seal Coatings products to the existing substrate. **New EPDM roof surfaces shall be allowed to cure a minimum of 90 days prior to application.**

3.2 Preparation shall include but not limited to the following:

3.3 All unnecessary and non-functional equipment and debris shall be removed from the roof.

3.4 Substrate must be pressure-washed. A minimum working pressure of 3,000 psi shall be used to remove all dirt, dust, previous paints & coatings which are delaminating as well as waste products (oil, oil-based roof cements, solvents, grease, animal fats, etc). Use TSP (Tri Sodium Phosphate) or a similar cleaning solution. **EPDM** surface should be completely black, making sure there is no mica residue left on the roof surface. Thoroughly rinse roof surface to make sure there is no residue left from the cleaning agent.

3.5 HVAC condensate drains shall be permanently routed to roof drains or off roof so as to not adversely affect roof coating system.

3.6 Determine moisture content underlying the **EPDM** membrane. A moisture content of 15% or greater indicates a potential problem. Work shall not proceed until the cause of high moisture content is verified and the condition is corrected.

- 3.7 Inspect the condition of flashing details adjacent to protrusions, penetrations, roof mounted equipment, curbs, walls, parapets, drains and roof edge to ensure that details are acceptable and will maintain a weather-tight installation after properly reinforced and coated.
- 3.8 Ponding Water: Contractor shall mechanically eliminate all ponding water areas on the roof prior to application of roof coatings ("Ponding water" is defined as water which does not properly drain and remains for more than 48 hours).
- 3.9 Any unsound areas in the roof deck or insulation, including blisters, delimitation, deterioration, excessive moisture content, etc shall be repaired or replaced. All blisters, delimitations, wrinkles and loose areas shall either be cut away and removed, or cut open and matted flat to the roof deck. Secure/ replace loose underlying fasteners. Relocate fasteners no more than six inches from original location.
- 3.10 Reinforce all repaired areas by applying a heavy coat of ACU-TAC on an around the repair at a rate of 100 square feet per gallon. While the ACU-TAC is still wet apply an appropriate size piece of ACU-FABRIC on top of the repair area, allowing ACU-FABRIC to overlap onto sound roof surface; assure that there is a heavy coat of ACU-TAC under the overlap. Make sure there are no wrinkles, puckers or folds in the ACU-FABRIC. Apply a second coat of ACU-TAC on top of the ACU-FABRIC as a rate of 100 square feet per gallon using a 6" deck brush, making sure the ACU-FABRIC is completely saturated with no wrinkles or puckers. Allow 24 hours to dry before top coating with ACU-SHIELD.
- 3.11 All cracks, splits, voids or holes larger than 1/8" in width shall be filled and leveled with ACU-CAULK:FG.
- 3.12 Reinforce all seams, parapet terminations along with roof terminations and flashing's, around drains, scuppers and skylights, the base of all vents and around any other penetration with one of the following:
1. - Apply a heavy coat of ACU-CAULK:BG around the area to be detailed. Place a appropriate strip of ACU-FABRIC onto the wet ACU-CAULK:BG. Work ACU-FABRIC into ACU-CAULK:BG using a brush, roller, or soft bristle deck broom to eliminate air pockets, puckers, wrinkles, gaps or folds, applying ACU-CAULK:BG as necessary to fully encapsulate the ACU-FABRIC. Make sure to extend the ACU-CAULK:BG at least 4" past the ACU-FABRIC.
  2. - Apply a heavy coat of ACU-CAULK:FG to the perimeter of the penetration to a thickness of 40 - 60 mils. Feather out the edges at least 4" past the repaired area.
  3. - Applying a heavy coat of ACU-TAC on an around the repair at a rate of 2.5 gallons per 100 square feet. While the ACU-TAC is still wet apply an appropriate size piece of ACU-FABRIC on top of the repair area, allowing ACU-FABRIC to overlap onto sound roof surface; assure that there is a heavy coat of ACU-TAC under the overlap. Make sure there are no wrinkles, puckers or folds in the ACU-FABRIC. Apply a second coat of ACU-TAC on top of the ACU-FABRIC at a rate of 2.5 gallons per 100 square feet using a 6" deck brush, making sure the ACU-FABRIC is completely saturated with no wrinkles or puckers.

#### 4.0 COATING APPLICATION

- 4.1 Examine substrate to receive roof coating. Do not proceed with installation of Energy Seal Coatings until unsatisfactory conditions have been corrected in a manner acceptable to the manufacturer.
- 4.2 Use a wet film gauge to determine coating thickness every 500 sq.ft. The wet film thickness should be at least twice as thick as the desired dry film thickness per coat. For instance, one coat of ACU-SHIELD is to be applied at a thickness of 10 DRY mils. The wet film thickness should be 20 mils.
- 4.3 Entire roof shall be primed with ACU-PRIME ALL at a rate of 200 square feet per gallon. ACU-PRIME ALL must be allowed to cure for 24 hours.
- 4.4 Apply ACU-SHIELD elastomeric coating by airless spray equipment, using a multi-pass spray technique to ensure even application to the **EPDM** roof surface. Use a wet film gauge often to measure film thickness. Wet film thickness should be twice as thick as the desired dry film thickness.
- 4.5 Apply first coat of ACU-SHIELD: First coat shall be applied perpendicular to the seams of the **EPDM** roofing. Dry film thickness shall be approximately 10 mils.

- 4.6 Apply second coat of ACU-SHIELD: Second coat shall be applied parallel to the first coat. Dry film thickness shall be approximately 10 mils.
- 4.7 Apply third coat of ACU-SHIELD: Third coat shall be applied perpendicular to the second coat. Dry film thickness shall be approximately 10 mils.
- 4.8 Apply ACU-GLOSS clear acrylic coating is to be applied only after the ACU-SHIELD has thoroughly cured and dried for at least 24 hours.
- 4.9 Each coat must be allowed to cure for 24 - 48 hours depending on humidity and temperature. The roof is to be inspected for defects, flaws or holidays and repaired if necessary before a subsequent coat is applied.

## 5.0 APPLICATION RATES

- 5.1 **Standard** 10-year warranty: Detail as per 3.12. Apply ACU-PRIME ALL (see 4.3) Apply two coats of ACU-SHIELD (see 4.5 - 4.6) at a rate of 1.0 gal./100 sq.ft., per coat. Minimum dry film thickness 20 mils, excluding seam, flashing, joints and other detail areas.
- 5.2 **Extended** 12-year warranty: Detail as per 3.12. Apply ACU-PRIME ALL (see 4.3) Apply two coats of ACU-SHIELD (see 4.5 - 4.6) at a rate of 1.0 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-SHIELD at a rate of 1.0 gal./ 200 sq.ft. (see 4.8). Minimum dry film thickness 20 - 23 mils, excluding seam, flashing, joints and other detail areas.
- 5.3 **Elite** 15-year warranty: Detail as per 3.12 Apply ACU-PRIME ALL (see 4.3) Apply three coats of ACU-SHIELD (see 4.5 - 4.7) at a rate of 1.0 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-SHIELD at a rate of 1.0 gal./ 200 sq.ft. (see 4.8). Minimum dry film thickness 30 - 33 mils, excluding seam, flashing, joints and other detail areas.

## 6.0 RESTRICTIONS / LIMITATIONS

- 6.1 This system is to be used only in conjunction with commonly accepted roofing standards but not limited to the following:
- 6.2 No application of materials shall commence during inclement weather or when precipitation is imminent. **No thinning of materials is permitted.**
- 6.3 No materials are to be applied to wet, dirty, or frozen surfaces.
- 6.4 No materials are to be applied at temperatures below 40° F.
- 6.5 Do not apply when dew point is within 5°F of of the surface temperature or if freezing temperatures (32°F or lower) are forecasted for the following 24 hours after application of coating products.
- 6.6 No materials are to be applied at ambient air temperatures above 100° F.
- 6.7 No materials are to be applied at relative humidity levels above 88%.
- 6.8 Do not spray apply if the wind velocity exceeds 10 mph without taking precautions to eliminate over spray.
- 6.9 Take all necessary precautions to protect unrelated surfaces from coating over spray or spillage
- 6.10 In conjunction with the final inspection, all debris, containers, materials and equipment are to be properly removed from the job site. Grounds are to be cleaned undamaged and acceptable to the owner.
- 6.11 Reflectivity of coatings may be reduced if roof surface is not cleaned on a regularly scheduled basis.
- 6.12 Ponding water areas must be repaired prior to any coating application to allow water to drain off the roof.

**CAUTION:** Do not apply within two hours of sunset, rain, fog or freezing temperatures. Energy Seal Coatings must be completely dry before exposing to water or foot traffic. Keep Energy Seal Coatings containers covered when not in use. Dispose of all containers in accordance with state and local environmental regulations. Keep away from children. If ingested, DO NOT induce vomiting. Call Physician immediately.

Our suggested installation specifications are based on information from laboratory and field testing which we believe to be reliable and correct; however, accuracy and completeness of said tests are not guaranteed and not to be construed as a warranty, either expressed or implied. Since the use of the material is beyond manufacturer's control, buyer assumes all risk whatsoever as to their use or results obtained. We guarantee our products to conform to Advanced Coating Systems, Inc. quality control. Advanced Coating Systems, Inc. warrants only the standard quality of material. Manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proved to be defective.

*Manufactured by Advanced Coating Systems, Inc.*

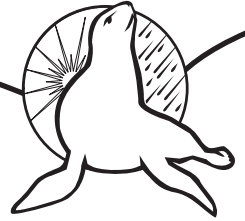
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**800-587-3758**



# Energy Seal Coatings



## WARRANTY SPECIFICATIONS FOR COATING **FULL FABRIC on CONCRETE ROOFING**

### 1.0 SCOPE

The intention of this specification is to outline the procedures for the application of Energy Seal Coatings reflective roof coatings for the purpose of coating **CONCRETE** roof surfaces. These suggested specifications describe materials, methods and conditions necessary for the proper application of Energy Seal Coatings. Actual application requirements are the responsibility of the installer.

### 2.0 MATERIALS

All Materials used shall be manufactured by and or approved by Advanced Coating Systems, Inc. Please refer to our product data sheets for technical specifications:

#### 2.1 Elastomeric Coating System

<b>ACU-SHIELD</b>	Acrylic, elastomeric roof coating.
<b>ACU-CAULK:BG</b>	Acrylic, elastomeric brush grade caulk.
<b>ACU-CAULK:FG</b>	Fibered, acrylic, reinforced, elastomeric flashing grade caulk.
<b>ACU-PRIME ALL</b>	Durable primer for non-metal or non-rusted metal surfaces.
<b>ACU-GLOSS</b>	Clear acrylic finish.
<b>ACU-FABRIC</b>	44" X 328' spunbound polyester reinforcing scrim.

#### 2.2 Delivery and storage:

2.3 Materials shall be delivered in their original, tightly sealed containers or unopened packages, all clearly labeled with the manufacturer's name, file number, and batch numbers.

2.4 Materials shall be stored out of the weather in their original tightly sealed containers or unopened containers as recommended by the manufacturer. Do not allow liquid coating to freeze.

### 3.0 SURFACE PREPARATION

3.1 Preparation shall include all requirements specified by Advanced Coating Systems, Inc., to ensure proper adhesion of the Energy Seal Coatings products to the existing substrate. **New CONCRETE roof surfaces shall be allowed to cure a minimum of 30 days prior to application.**

3.2 Preparation shall include but not limited to the following:

3.3 All unnecessary and non-functional equipment and debris shall be removed from the roof.

3.4 Substrate must be pressure-washed. A minimum working pressure of 3,000 psi shall be used to remove all dirt, dust, previous paints & coatings which are delaminating as well as waste products (oil, oil-based roof cements, solvents, grease, animal fats, etc). Use TSP (Tri Sodium Phosphate) or a similar cleaning solution. Thoroughly rinse roof surface to make sure there is no residue left from the cleaning agent.

3.5 HVAC condensate drains shall be permanently routed to roof drains or off roof so as to not adversely affect roof coating system.

- 3.6 Determine moisture content of the **CONCRETE** roof deck. A moisture content of 15% or greater indicates a potential problem. Work shall not proceed until the cause of high moisture content is verified and the condition is corrected.
- 3.7 Inspect the condition of flashing details adjacent to protrusions, penetrations, roof mounted equipment, curbs, walls, parapets, drains and roof edge to ensure that details are acceptable and will maintain a weather-tight installation after properly reinforced and coated.
- 3.8 Ponding Water: Contractor shall mechanically eliminate all ponding water areas on the roof prior to application of roof coatings ("Ponding water" is defined as water which does not properly drain and remains for more than 48 hours).
- 3.9 Unsound areas including deterioration, pitted or spalled concrete, etc., shall be repaired or replaced with an appropriate high strength, polymer concrete repair mix. Assure the repaired area is level with the surrounding substrate.
- 3.10 Spalled sections of concrete should be resurfaced using an appropriate concrete repair mix.
- 3.11 All cracks, splits, voids or holes larger than 1/8" in width shall be filled and leveled with ACU-CAULK:FG.
- 3.12 Reinforce all cracks and/or seams, parapet terminations along with roof terminations and flashing's, around drains, scuppers and skylights, the base of all vents and around any other penetration with one of the following:
  - 1. - Apply a heavy coat of ACU-CAULK:BG around the area to be detailed. Place a appropriate strip of ACU-FABRIC onto the wet ACU-CAULK:BG. Work ACU-FABRIC into ACU-CAULK:BG using a brush, roller, or soft bristle deck broom to eliminate air pockets, puckers, wrinkles, gaps or folds, applying ACU-CAULK:BG necessary to fully encapsulate the ACU-FABRIC. Make sure to extend the ACU-CAULK:BG at least 4" past the ACU-FABRIC.
  - 2. - Apply a heavy coat of ACU-CAULK:FG to the perimeter of the penetration to a thickness of 40 - 60 mils. Feather out the edges at least 4" past the repaired area.
  - 3. - Applying a heavy coat of ACU-TAC on an around the repair at a rate of 2.5 gallons per 100 square feet. While the ACU-TAC is still wet apply an appropriate size piece of ACU-FABRIC on top of the repair area, allowing ACU-FABRIC to overlap onto sound roof surface; assure that there is a heavy coat of ACU-TAC under the overlap. Make sure there are no wrinkles, puckers or folds in the ACU-FABRIC. Apply a second coat of ACU-TAC on top of the ACU-FABRIC at a rate of 2.5 gallons per 100 square feet using a 6" deck brush, making sure the ACU-FABRIC is completely saturated with no wrinkles or puckers.

#### 4.0 COATING APPLICATION

- 4.1 Examine substrate to receive roof coating. Do not proceed with installation of Energy Seal Coatings until unsatisfactory conditions have been corrected in a manner acceptable to the manufacturer.
- 4.2 Use a wet film gauge to determine coating thickness every 500 sq.ft. The wet film thickness should be at least twice as thick as the desired dry film thickness per coat. For instance, one coat of ACU-SHIELD is to be applied at a thickness of 10 mils. The wet film thickness should be 20 mils.
- 4.3 Entire roof shall be primed with ACU-TAC at a rate of 2.5 gallons per 100 square feet. While the ACU-TAC is still wet roll out 44" ACU-FABRIC, making sure there are no wrinkles or puckers in the ACU-FABRIC. Then apply a second coat of ACU-TAC to the top of the ACU-FABRIC at a rate of 2.5 gallons per 100 square feet, making sure the ACU-TAC is completely saturated. Allow 24 hours to dry before top coating with ACU-SHIELD.
 

**OR (at the discretion of the installer)**
- 4.4 Roll 44" ACU-FABRIC on to the roof surface. Apply ACU-TAC to the top of the ACU-FABRIC at a rate of 100 square feet per 5 gallon bucket. Work the ACU-TAC in to the ACU-FABRIC with a 6" deck brush, making sure the ACU-FABRIC is completely saturated with no wrinkles or puckers. Allow 24 hours to dry before top coating with ACU-SHIELD.
- 4.5 Apply ACU-SHIELD elastomeric coating by airless spray equipment, using a mult-pass spray technique to ensure even application to the **CONCRETE** roof surface. Use a wet film gauge often to measure film thickness. Wet film thickness

- 4.6 Apply first coat of ACU-SHIELD: First coat shall be applied perpendicular to the seams of the **CONCRETE** roof surface. Dry film thickness shall be approximately 10 mils.
- 4.7 Apply second coat of ACU-SHIELD: Second coat shall be applied parallel to the first coat. Dry film thickness shall be approximately 10 mils.
- 4.8 Apply third coat of ACU-SHIELD: Third coat shall be applied perpendicular to the second coat. Dry film thickness shall be approximately 10 mils.
- 4.9 Apply ACU-GLOSS clear acrylic coating is to be applied only after the ACU-SHIELD has thoroughly cured and dried for at least 24 hours.
- 4.10 Each coat must be allowed to cure for 24 - 48 hours depending on humidity and temperature. The roof is to be inspected for defects, flaws or holidays and repaired if necessary before a subsequent coat is applied.

## 5.0 APPLICATION RATES

- 5.1 **Standard** 10-year warranty: Detail as per 3.12. Apply ACU-PRIME ALL (see 4.3) Apply two coats of ACU-SHIELD (see 4.4 - 4.5) at a rate of 1.0 gal./100 sq.ft., per coat. Minimum dry film thickness 20 mils, excluding seam, flashing, joints and other detail areas.
- 5.2 **Extended** 12-year warranty: Detail as per 3.12. Apply ACU-PRIME ALL (see 4.3) Apply two coats of ACU-SHIELD (see 4.4 - 4.5) at a rate of 1.0 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-SHIELD at a rate of 1.0 gal./ 200 sq.ft. (see 4.9). Minimum dry film thickness 20 - 23 mils, excluding seam, flashing, joints and other detail areas.
- 5.3 **Elite** 15-year warranty: Detail as per 3.12 Apply ACU-PRIME ALL (see 4.3) Apply three coats of ACU-SHIELD (see 4.4 - 4.6) at a rate of 1.0 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-SHIELD at a rate of 1.0 gal./ 200 sq.ft. (see 4.9). Minimum dry film thickness 30 - 33 mils, excluding seam, flashing, joints and other detail areas.

## 6.0 RESTRICTIONS / LIMITATIONS

- 6.1 This system is to be used only in conjunction with commonly accepted roofing standards but not limited to the following:
- 6.2 No application of materials shall commence during inclement weather or when precipitation is imminent. **No thinning of materials is permitted.**
- 6.3 No materials are to be applied to wet, dirty, or frozen surfaces.
- 6.4 No materials are to be applied at temperatures below 40° F.
- 6.5 Do not apply when dew point is within 5°F of of the surface temperature or if freezing temperatures (32°F or lower) are forecasted for the following 24 hours after application of coating products.
- 6.6 No materials are to be applied at ambient air temperatures above 100° F.
- 6.7 No materials are to be applied at relative humidity levels above 88%.
- 6.8 Do not spray apply if the wind velocity exceeds 10 mph without taking precautions to eliminate over spray.
- 6.9 Take all necessary precautions to protect unrelated surfaces from coating over spray or spillage
- 6.10 In conjunction with the final inspection, all debris, containers, materials and equipment are to be properly removed from the job site. Grounds are to be cleaned undamaged and acceptable to the owner.
- 6.11 Reflectivity of coatings may be reduced if roof surface is not cleaned on a regularly scheduled basis.
- 6.12 Ponding water areas must be repaired prior to any coating application to allow water to drain off the roof.

**CAUTION:** Do not apply within two hours of sunset, rain, fog or freezing temperatures. Energy Seal Coatings must be completely dry before exposing to water or foot traffic. Keep Energy Seal Coatings containers covered when not in use. Dispose of all containers in accordance with state and local environmental regulations. Keep away from children. If ingested, DO NOT induce vomiting. Call Physician immediately.

Our suggested installation specifications are based on information from laboratory and field testing which we believe to be reliable and correct; however, accuracy and completeness of said tests are not guaranteed and not to be construed as a warranty, either expressed or implied. Since the use of the material is beyond manufacturer's control, buyer assumes all risk whatsoever as to their use or results obtained. We guarantee our products to conform to Advanced Coating Systems, Inc. quality control. Advanced Coating Systems, Inc. warrants only the standard quality of material. Manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proved to be defective.

*Manufactured by Advanced Coating Systems, Inc.*

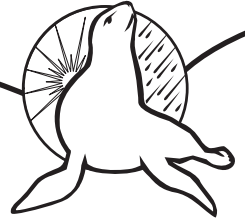
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# Energy Seal Coatings



## WARRANTY SPECIFICATIONS FOR COATING **FULL FABRIC on SMOOTH BUILT-UP ROOFING**

### 1.0 SCOPE

The intention of this specification is to outline the procedures for the application of Energy Seal Coatings reflective roof coatings for the purpose of coating **BUILT-UP** roof surfaces. These suggested specifications describe materials, methods and conditions necessary for the proper application of Energy Seal Coatings. Actual application requirements are the responsibility of the installer.

### 2.0 MATERIALS

All Materials used shall be manufactured by and or approved by Advanced Coating Systems, Inc. Please refer to our product data sheets for technical specifications:

#### 2.1 Elastomeric Coating System

<b>ACU-SHIELD</b>	Acrylic, elastomeric roof coating.
<b>ACU-CAULK:BG</b>	Acrylic, elastomeric brush grade caulk.
<b>ACU-CAULK:FG</b>	Fibered, acrylic, reinforced, elastomeric flashing grade caulk.
<b>ACU-PRIME ALL</b>	Durable primer for non-metal or non-rusted metal surfaces.
<b>ACU-GLOSS</b>	Clear acrylic finish.
<b>ACU-FABRIC</b>	Spunbound polyester reinforcing scrim.

#### 2.2 Delivery and storage:

2.3 Materials shall be delivered in their original, tightly sealed containers or unopened packages, all clearly labeled with the manufacturer's name, file number, and batch numbers.

2.4 Materials shall be stored out of the weather in their original tightly sealed containers or unopened containers as recommended by the manufacturer. Do not allow liquid coating to freeze.

### 3.0 SURFACE PREPARATION

3.1 Preparation shall include all requirements specified by Advanced Coating Systems, Inc., to ensure proper adhesion of the Energy Seal Coatings products to the existing substrate. **New BUILT-UP roof surfaces shall be allowed to cure a minimum of 90 days prior to application.**

3.2 Preparation shall include but not limited to the following:

3.3 All unnecessary and non-functional equipment and debris shall be removed from the roof.

3.4 Substrate must be pressure-washed. A minimum working pressure of 3,000 psi shall be used to remove all dirt, dust, previous paints & coatings which are delaminating as well as waste products (oil, oil-based roof cements, solvents, grease, animal fats, etc). Use TSP (Tri Sodium Phosphate) or a similar cleaning solution. Thoroughly rinse roof surface to make sure there is no residue left from the cleaning agent.

3.5 HVAC condensate drains shall be permanently routed to roof drains or off roof so as to not adversely affect roof coating system.

3.6 Determine moisture content of existing **BUILT-UP** roof deck. A moisture content of 15% or greater indicates a potential problem. Work shall not proceed until the cause of high moisture content is verified and the condition is corrected.

- 3.7 Inspect the condition of flashing details adjacent to protrusions, penetrations, roof mounted equipment, curbs, walls, parapets, drains and roof edge to ensure that details are acceptable and will maintain a weather-tight installation after properly reinforced and coated.
- 3.8 Ponding Water: Contractor shall mechanically eliminate all ponding water areas on the roof prior to application of roof coatings ("Ponding water" is defined as water which does not properly drain and remains for more than 48 hours).
- 3.9 Any unsound areas in the roof deck or insulation, including blisters, delimitation, deterioration, excessive moisture content, etc shall be repaired or replaced. All blisters, delimitations, wrinkles and loose areas shall either be cut away and removed, or cut open and mailed flat to the roof deck.
- 3.10 Reinforce all repaired areas by applying a heavy coat of ACU-TAC on an around the repair at a rate of 100 square feet per gallon. While the ACU-TAC is still wet apply an appropriate size piece of ACU-FABRIC on top of the repair area, allowing ACU-FABRIC to overlap onto sound roof surface; assure that there is a heavy coat of ACU-TAC under the overlap. Make sure there are no wrinkles, puckers or folds in the ACU-FABRIC. Apply a second coat of ACU-TAC on top of the ACU-FABRIC as a rate of 100 square feet per gallon using a 6" deck brush, making sure the ACU-FABRIC is completely saturated with no wrinkles or puckers. Allow 24 hours to dry before top coating with ACU-SHIELD
- 3.11 All cracks, splits, voids or holes larger than 1/8" in width shall be filled and leveled with ACU-CAULK:FG.
- 3.12 Reinforce all seams, parapet terminations along with roof terminations and flashing's, around drains, scuppers and skylights, the base of all vents and around any other penetration with one of the following:
1. - Apply a heavy coat of ACU-CAULK:BG around the area to be detailed. Place a appropriate strip of ACU-FABRIC onto the wet ACU-CAULK:BG. Work ACU-FABRIC into ACU-CAULK:BG using a brush, roller, or soft bristle deck broom to eliminate air pockets, puckers, wrinkles, gaps or folds, applying ACU-CAULK:BG as necessary to fully encapsulate the ACU-FABRIC. Make sure to extend the ACU-CAULK:BG at least 4" past the ACU-FABRIC.
  2. - Apply a heavy coat of ACU-CAULK:FG to the perimeter of the penetration to a thickness of 40 - 60 mils. Feather out the edges at least 4" past the repaired area.
  3. - Applying a heavy coat of ACU-TAC on an around the repair at a rate of 2.5 gallons per 100 square feet. While the ACU-TAC is still wet apply an appropriate size piece of ACU-FABRIC on top of the repair area, allowing ACU-FABRIC to overlap onto sound roof surface; assure that there is a heavy coat of ACU-TAC under the overlap. Make sure there are no wrinkles, puckers or folds in the ACU-FABRIC. Apply a second coat of ACU-TAC on top of the ACU-FABRIC at a rate of 2.5 gallons per 100 square feet using a 6" deck brush, making sure the ACU-FABRIC is completely saturated with no wrinkles or puckers.

#### 4.0 COATING APPLICATION

- 4.1 Examine substrate to receive roof coating. Do not proceed with installation of Energy Seal Coatings until unsatisfactory conditions have been corrected in a manner acceptable to the manufacturer.
- 4.2 Use a wet film gauge to determine coating thickness every 500 sq.ft. The wet film thickness should be at least twice as thick as the desired dry film thickness per coat. For instance, one coat of ACU-SHIELD is to be applied at a thickness of 10 DRY mils. The wet film thickness should be 20 mils.
- 4.3 Entire roof shall be primed with ACU-TAC at a rate of 2.5 gallons per 100 square feet. While the ACU-TAC is still wet roll out 44" ACU-FABRIC, making sure there are no wrinkles or puckers in the ACU-FABRIC. Then apply a second coat of ACU-TAC to the top of the ACU-FABRIC at a rate of 2.5 gallons per 100 square feet, making sure the ACU-TAC is completely saturated. Allow 24 hours to dry before top coating with ACU-SHIELD.
- OR (at the discretion of the installer)**
- 4.4 Roll 44" ACU-FABRIC on to the roof surface. Apply ACU-TAC to the top of the ACU-FABRIC at a rate of 5 gallons per 100 square feet. Work the ACU-TAC in to the ACU-FABRIC with a 6" deck brush, making sure the ACU-FABRIC is completely saturated with no wrinkles or puckers. Allow 24 hours to dry before top coating with ACU-SHIELD.
- 4.5 Apply ACU-SHIELD elastomeric coating by airless spray equipment, using a mult-pass spray technique to ensure even application to the **CONCRETE** roof surface. Use a wet film gauge often to measure film thickness. Wet film thickness should be twice as thick as the desired dry film thickness.

- 4.6 Apply first coat of ACU-SHIELD: First coat shall be applied perpendicular to the seams of the **BUILT-UP** roof surface. Dry film thickness shall be approximately 10 mils.
- 4.7 Apply second coat of ACU-SHIELD: Second coat shall be applied parallel to the first coat. Dry film thickness shall be approximately 10 mils.
- 4.8 Apply third coat of ACU-SHIELD: Third coat shall be applied perpendicular to the second coat. Dry film thickness shall be approximately 10 mils.
- 4.9 Apply ACU-GLOSS clear acrylic coating is to be applied only after the ACU-SHIELD has thoroughly cured and dried for at least 24 hours.
- 4.10 Each coat must be allowed to cure for 24 - 48 hours depending on humidity and temperature. The roof is to be inspected for defects, flaws or holidays and repaired if necessary before a subsequent coat is applied.

## 5.0 APPLICATION RATES

- 5.1 **Standard** 10-year warranty: Detail as per 3.12. Apply ACU-PRIME ALL (see 4.3) Apply two coats of ACU-SHIELD (see 4.4 - 4.5) at a rate of 1.0 gal./100 sq.ft., per coat. Minimum dry film thickness 20 mils, excluding seam, flashing, joints and other detail areas.
- 5.2 **Extended** 12-year warranty: Detail as per 3.12. Apply ACU-PRIME ALL (see 4.3) Apply two coats of ACU-SHIELD (see 4.4 - 4.5) at a rate of 1.0 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-SHIELD at a rate of 1.0 gal./ 200 sq.ft. (see 4.7). Minimum dry film thickness 20 - 23 mils, excluding seam, flashing, joints and other detail areas.
- 5.3 **Elite** 15-year warranty: Detail as per 3.12 Apply ACU-PRIME ALL (see 4.3) Apply three coats of ACU-SHIELD (see 4.4 - 4.7) at a rate of 1.0 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-SHIELD at a rate of 1.0 gal./ 200 sq.ft. (see 4.7). Minimum dry film thickness 30 - 33 mils, excluding seam, flashing, joints and other detail areas.

## 6.0 RESTRICTIONS / LIMITATIONS

- 6.1 This system is to be used only in conjunction with commonly accepted roofing standards but not limited to the following:
- 6.2 No application of materials shall commence during inclement weather or when precipitation is imminent. **No thinning of materials is permitted.**
- 6.3 No materials are to be applied to wet, dirty, or frozen surfaces.
- 6.4 No materials are to be applied at temperatures below 40° F.
- 6.5 Do not apply when dew point is within 5°F of of the surface temperature or if freezing temperatures (32°F or lower) are forecasted for the following 24 hours after application of coating products.
- 6.6 No materials are to be applied at ambient air temperatures above 100° F.
- 6.7 No materials are to be applied at relative humidity levels above 88%.
- 6.8 Do not spray apply if the wind velocity exceeds 10 mph without taking precautions to eliminate over spray.
- 6.9 Take all necessary precautions to protect unrelated surfaces from coating over spray or spillage
- 6.10 In conjunction with the final inspection, all debris, containers, materials and equipment are to be properly removed from the job site. Grounds are to be cleaned undamaged and acceptable to the owner.
- 6.11 Reflectivity of coatings may be reduced if roof surface is not cleaned on a regularly scheduled basis.
- 6.12 Ponding water areas must be repaired prior to any coating application to allow water to drain off the roof.

**CAUTION:** Do not apply within two hours of sunset, rain, fog or freezing temperatures. Energy Seal Coatings must be completely dry before exposing to water or foot traffic. Keep Energy Seal Coatings containers covered when not in use. Dispose of all containers in accordance with state and local environmental regulations. Keep away from children. If ingested, DO NOT induce vomiting. Call Physician immediately.

Our suggested installation specifications are based on information from laboratory and field testing which we believe to be reliable and correct; however, accuracy and completeness of said tests are not guaranteed and not to be construed as a warranty, either expressed or implied. Since the use of the material is beyond manufacturer's control, buyer assumes all risk whatsoever as to their use or results obtained. We guarantee our products to conform to Advanced Coating Systems, Inc. quality control. Advanced Coating Systems, Inc. warrants only the standard quality of material. Manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proved to be defective.

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# BUILT-UP ROOF INSPECTION REPORT

Prepared for \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_  
 Company \_\_\_\_\_ Street Address \_\_\_\_\_  
 City/State/Zip \_\_\_\_\_  
 Phone \_\_\_\_\_  
 Building/Roof Identification Name or No. \_\_\_\_\_  
 Submitted by \_\_\_\_\_  
 Size of roof area \_\_\_\_\_ (square feet) Age of roof \_\_\_\_\_ (years)

**Type of BUR**

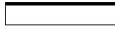



- Asphalt & Gravel
- Smooth Asphalt
- Tar & Gravel
- Mineral-Surfaced Rolled Roofing
- Other \_\_\_\_\_

**Insulation**

- Yes  No

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Slope**

-   Dead Level
-   Less than 1" Per Foot
-   1" to 2" Rise Per Foot
-   3" Rise Per Foot or more

**Indicate Condition of Items Below:**

**Roof Drainage**

No Action   Action

Ponding  Yes \_\_\_\_%.  No (If yes, estimate % of roof area.)

Scuppers \_\_\_\_\_

Drains \_\_\_\_\_

Downspouts \_\_\_\_\_

Gutters \_\_\_\_\_

Other \_\_\_\_\_

**Roof Surface**

Blistering \_\_\_\_\_

Punctures \_\_\_\_\_

Splitting \_\_\_\_\_

Attachment to Substrate \_\_\_\_\_

Ridging, Wrinkling \_\_\_\_\_

Fasteners \_\_\_\_\_

Open Laps, Fishmouthing \_\_\_\_\_

Membrane Slippage \_\_\_\_\_

Excessive Traffic Wear \_\_\_\_\_

Bare Spots in Gravel, Coating \_\_\_\_\_

Alligatoring, Cracking \_\_\_\_\_

Gravel Ballast Displaced \_\_\_\_\_

Surface Coating Degradation \_\_\_\_\_

Other \_\_\_\_\_

**Expansion Joint Covers**

No Action   Action

Open Joints \_\_\_\_\_

Rusting \_\_\_\_\_

Punctures, Splits \_\_\_\_\_

Fasteners \_\_\_\_\_

Securement \_\_\_\_\_

Other \_\_\_\_\_

**Parapet Wall**

Mortar Joints \_\_\_\_\_

Spalling \_\_\_\_\_

Movement Cracks \_\_\_\_\_

Other \_\_\_\_\_

**Coping**

Open Fractures \_\_\_\_\_

Fasteners \_\_\_\_\_

Attachment \_\_\_\_\_

Caulking \_\_\_\_\_

Rusting \_\_\_\_\_

Other \_\_\_\_\_

**Roof Edging and Fascia**

Splitting \_\_\_\_\_

Fasteners \_\_\_\_\_

Securement \_\_\_\_\_

Damaged \_\_\_\_\_

Rusting \_\_\_\_\_

Felt Deterioration \_\_\_\_\_

Other \_\_\_\_\_

**Base Flashing**

No Action   Action

Punctures, Damage \_\_\_\_\_

Open Laps \_\_\_\_\_

Deterioration \_\_\_\_\_

Attachment \_\_\_\_\_

Splits, Cracks \_\_\_\_\_

Ridging or Wrinkling \_\_\_\_\_

Blistering \_\_\_\_\_

Termination Bars \_\_\_\_\_

Other \_\_\_\_\_

**Roof Penetrations, Equipment Base, Housing**

Deteriorated Curbing \_\_\_\_\_

Physical Damage \_\_\_\_\_

Open Laps \_\_\_\_\_

Caulking \_\_\_\_\_

Punctures \_\_\_\_\_

Counter Flashing \_\_\_\_\_

Open Seams \_\_\_\_\_

Other \_\_\_\_\_

**Equipment Operation**

Discharge of Contaminants \_\_\_\_\_

Vapor Condensate \_\_\_\_\_

Other \_\_\_\_\_

**Pitch Pans**

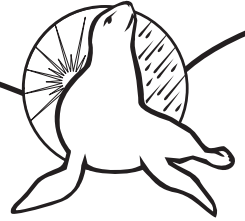
Fill Material Shrinkage \_\_\_\_\_

Attachment \_\_\_\_\_

Fill Crowned for Drainage \_\_\_\_\_

This inspection has been performed solely for the owner's benefit and indicates only that the described items have been visually inspected in order to determine, to the extent feasible, whether such details need attention in the inspector's opinion. Neither the performance of this inspection nor any information contained in this inspection report implies the acceptance of any particular roof design, installation procedure or roof component.

# Energy Seal Coatings



## WARRANTY SPECIFICATIONS FOR COATING HYPALON ROOFING

### 1.0 SCOPE

The intention of this specification is to outline the procedures for the application of Energy Seal Coatings reflective roof coatings for the purpose of coating **HYPALON** roof surfaces. These suggested specifications describe materials, methods and conditions necessary for the proper application of Energy Seal Coatings. Actual application requirements are the responsibility of the installer.

### 2.0 MATERIALS

All Materials used shall be manufactured by and or approved by Advanced Coating Systems, Inc. Please refer to our product data sheets for technical specifications:

#### 2.1 Elastomeric Coating System

<b>ACU-SHIELD</b>	Acrylic, elastomeric roof coating.
<b>ACU-CAULK:BG</b>	Acrylic, elastomeric brush grade caulk.
<b>ACU-CAULK:FG</b>	Fibered, acrylic, reinforced, elastomeric flashing grade caulk.
<b>ACU-PRIME ALL</b>	Durable primer for non-metal or non-rusted metal surfaces.
<b>ACU-GLOSS</b>	Clear acrylic finish.
<b>ACU-FABRIC</b>	Spunbound polyester reinforcing scrim.

#### 2.2 Delivery and storage:

2.3 Materials shall be delivered in their original, tightly sealed containers or unopened packages, all clearly labeled with the manufacturer's name, file number, and batch numbers.

2.4 Materials shall be stored out of the weather in their original tightly sealed containers or unopened containers as recommended by the manufacturer. Do not allow liquid coating to freeze.

### 3.0 SURFACE PREPARATION

3.1 Preparation shall include all requirements specified by Advanced Coating Systems, Inc., to ensure proper adhesion of the Energy Seal Coatings products to the existing substrate. **New HYPALON roof surfaces shall be allowed to cure a minimum of 90 days prior to application.**

3.2 Preparation shall include but not limited to the following:

3.3 All unnecessary and non-functional equipment and debris shall be removed from the roof.

3.4 Substrate must be pressure-washed. A minimum working pressure of 3,000 psi shall be used to remove all dirt, dust, previous paints & coatings which are delaminating as well as waste products (oil, oil-based roof cements, solvents, grease, animal fats, etc). Use TSP (Tri Sodium Phosphate) or a similar cleaning solution. **HYPALON** surface should be completely white, making sure there is no chalky residue left on the roof surface. Use a 500 psi setting if the **HYPALON** is showing signs of significant deteriorations. Do not damage the surface with excessive pressure washing.

3.5 HVAC condensate drains shall be permanently routed to roof drains or off roof so as to not adversely affect roof coating system.

3.6 Determine moisture content underlying the HYPALON membrane. A moisture content of 15% or greater indicates a potential problem. Work shall not proceed until the cause of high moisture content is verified and

the condition is corrected.

- 3.7 Inspect the condition of flashing details adjacent to protrusions, penetrations, roof mounted equipment, curbs, walls, parapets, drains and roof edge to ensure that details are acceptable and will maintain a weather-tight installation after properly reinforced and coated.
- 3.8 Ponding Water: Contractor shall mechanically eliminate all ponding water areas on the roof prior to application of roof coatings ("Ponding water" is defined as water which does not properly drain and remains for more than 48 hours).
- 3.9 Any unsound areas in the roof deck or insulation, including blisters, delimitation, deterioration, excessive moisture content, etc. Shall be repaired or replaced. All blisters, delimitations, wrinkles and loose areas shall either be cut away and removed, or cut open and nailed flat to the roof deck. Secure/ replace loose underlying fasteners. Relocate fasteners no more than six inches from original location.
- 3.10 Reinforce all repaired areas by applying a heavy coat of ACU-TAC on an around the repair at a rate of 100 square feet per gallon. While the ACU-TAC is still wet apply an appropriate size piece of ACU-FABRIC on top of the repair area, allowing ACU-FABRIC to overlap onto sound roof surface; assure that there is a heavy coat of ACU-TAC under the overlap. Apply a second coat of ACU-TAC on top of the ACU-FABRIC as a rate of 100 square feet per gallon using a 6" deck brush, making sure the ACU-FABRIC is completely saturated with no wrinkles or puckers. Allow 24 hours to dry before top coating with ACU-SHIELD.
- 3.11 All cracks, splits, voids or holes larger than 1/8" in width shall be filled and leveled with ACU-CAULK:FG.
- 3.12 Reinforce all seams, parapet terminations along with roof terminations and flashing's, around drains, scuppers and skylights, the base of all vents and around any other penetration with one of the following:
  1. - Apply a heavy coat of ACU-CAULK:BG around the area to be detailed. Place a appropriate strip of ACU-FABRIC onto the wet ACU-CAULK:BG. Work ACU-FABRIC into ACU-CAULK:BG using a brush, roller, or soft bristle deck broom to eliminate air pockets, puckers, wrinkles, gaps or folds, applying ACU-CAULK:BG necessary to fully encapsulate the ACU-FABRIC. Make sure to extend the ACU-CAULK:BG at least 4" past the ACU-FABRIC.
  2. - Apply a heavy coat of ACU-CAULK:FG to the perimeter of the penetration to a thickness of 40 - 60 mils. Feather out the edges at least 4" past the repaired area.
  3. - Applying a heavy coat of ACU-TAC on an around the repair at a rate of 2.5 gallons per 100 square feet. While the ACU-TAC is still wet apply an appropriate size piece of ACU-FABRIC on top of the repair area, allowing ACU-FABRIC to overlap onto sound roof surface; assure that there is a heavy coat of ACU-TAC under the overlap. Make sure there are no wrinkles, puckers or folds in the ACU-FABRIC. Apply a second coat of ACU-TAC on top of the ACU-FABRIC at a rate of 2.5 gallons per 100 square feet using a 6" deck brush, making sure the ACU-FABRIC is completely saturated with no wrinkles or puckers.

#### 4.0 COATING APPLICATION

- 4.1 Examine substrate to receive roof coating. Do not proceed with installation of Energy Seal Coatings until unsatisfactory conditions have been corrected in a manner acceptable to the manufacturer.
- 4.2 Use a wet film gauge to determine coating thickness every 500 sq.ft. The wet film thickness should be at least twice as thick as the desired dry film thickness per coat. For instance, one coat of ACU-SHIELD is to be applied at a thickness of 10 DRY mils. The wet film thickness should be 20 mils.
- 4.3 Entire roof shall be primed with ACU-PRIME ALL at a rate of 200 square feet per gallon. ACU-PRIME ALL must be allowed to cure for 24 hours.
- 4.4 Apply ACU-SHIELD elastomeric coating by airless spray equipment, using a multi-pass spray technique to ensure even application to the **HYPALON**. Use a wet film gauge often to measure film thickness. Wet film thickness should be twice as thick as the desired dry film thickness.
- 4.5 Apply first coat of ACU-SHIELD: First coat shall be applied perpendicular to the seams of the **HYPALON** roofing. Dry film thickness shall be approximately 10 mils.

- 4.6 Apply second coat of ACU-SHIELD: Second coat shall be applied parallel to the first coat. Dry film thickness shall be approximately 10 mils.
- 4.7 Apply second coat of ACU-SHIELD: Third coat shall be applied perpendicular to the second coat. Dry film thickness shall be approximately 10 mils.
- 4.8 Apply ACU-GLOSS clear acrylic coating is to be applied only after the ACU-SHIELD has thoroughly cured and dried for at least 24 hours.
- 4.9 Each coat must be allowed to cure for 24 - 48 hours depending on humidity and temperature. The roof is to be inspected for defects, flaws or holidays and repaired if necessary before a subsequent coat is applied.

## 5.0 APPLICATION RATES

- 5.1 **Standard** 10-year warranty: Detail as per 3.12. Apply ACU-PRIME ALL (see 4.3) Apply two coats of ACU-SHIELD (see 4.5 - 4.6) at a rate of 1.0 gal./100 sq.ft., per coat. Minimum dry film thickness 20 mils, excluding seam, flashing, joints and other detail areas.
- 5.2 **Extended** 12-year warranty: Detail as per 3.12. Apply ACU-PRIME ALL (see 4.3) Apply two coats of ACU-SHIELD (see 4.5 - 4.6) at a rate of 1.0 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-SHIELD at a rate of 1.0 gal./ 200 sq.ft. (see 4.8). Minimum dry film thickness 20 - 25 mils, excluding seam, flashing, joints and other detail areas.
- 5.3 **Elite** 15-year warranty: Detail as per 3.12 Apply ACU-PRIME ALL (see 4.3) Apply three coats of ACU-SHIELD (see 4.5 - 4.7) at a rate of 1.0 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-SHIELD at a rate of 1.0 gal./ 200 sq.ft. (see 4.8). Minimum dry film thickness 25 - 30 mils, excluding seam, flashing, joints and other detail areas.

## 6.0 RESTRICTIONS / LIMITATIONS

- 6.1 This system is to be used only in conjunction with commonly accepted roofing standards but not limited to the following:
- 6.2 No application of materials shall commence during inclement weather or when precipitation is imminent. **No thinning of materials is permitted.**
- 6.3 No materials are to be applied to wet, dirty, or frozen surfaces.
- 6.4 No materials are to be applied at temperatures below 40° F.
- 6.5 Do not apply when dew point is within 5°F of of the surface temperature or if freezing temperatures (32°F or lower) are forecasted for the following 24 hours after application of coating products.
- 6.6 No materials are to be applied at ambient air temperatures above 100° F.
- 6.7 No materials are to be applied at relative humidity levels above 88%.
- 6.8 Do not spray apply if the wind velocity exceeds 10 mph without taking precautions to eliminate over spray.
- 6.9 Take all necessary precautions to protect unrelated surfaces from coating over spray or spillage
- 6.10 In conjunction with the final inspection, all debris, containers, materials and equipment are to be properly removed from the job site. Grounds are to be cleaned undamaged and acceptable to the owner.
- 6.11 Reflectivity of coatings may be reduced if roof surface is not cleaned on a regularly scheduled basis.
- 6.12 Ponding water areas must be repaired prior to any coating application to allow water to drain off the roof.

**CAUTION:** Do not apply within two hours of sunset, rain, fog or freezing temperatures. Energy Seal Coatings must be completely dry before exposing to water or foot traffic. Keep Energy Seal Coatings containers covered when not in use. Dispose of all containers in accordance with state and local environmental regulations. Keep away from children. If ingested, DO NOT induce vomiting. Call Physician immediately.

Our suggested installation specifications are based on information from laboratory and field testing which we believe to be reliable and correct; however, accuracy and completeness of said tests are not guaranteed and not to be construed as a warranty, either expressed or implied. Since the use of the material is beyond manufacturer's control, buyer assumes all risk whatsoever as to their use or results obtained. We guarantee our products to conform to Advanced Coating Systems, Inc. quality control. Advanced Coating Systems, Inc. warrants only the standard quality of material. Manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proved to be defective.

*Manufactured by Advanced Coating Systems, Inc.*

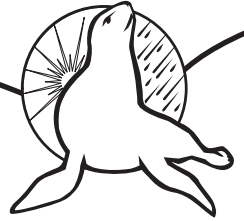
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# Energy Seal Coatings



## WARRANTY SPECIFICATIONS FOR COATING **METAL ROOFING**

### 1.0 SCOPE

The intention of this specification is to outline the procedures for the application of Energy Seal Coatings reflective roof coatings for the purpose of coating **METAL ROOFING** surfaces. These suggested specifications describe materials, methods and conditions necessary for the proper application of Energy Seal Coatings. Actual application requirements are the responsibility of the installer.

### 2.0 MATERIALS

All Materials used shall be manufactured by and or approved by Advanced Coating Systems, Inc. Please refer to our product data sheets for technical specifications:

#### 2.1 Elastomeric Coating System

<b>ACU-SHIELD</b>	Acrylic, elastomeric roof coating.
<b>ACU-CAULK:BG</b>	Acrylic, elastomeric brush grade caulk.
<b>ACU-CAULK:FG</b>	Fibered, acrylic, reinforced, elastomeric flashing grade caulk.
<b>ACU-RUST PRIME</b>	Durable primer for rusted metal surfaces.
<b>ACU-TAC</b>	Bonding agent.
<b>ACU-FABRIC:SB</b>	Spunbound polyester reinforcing scrim.
<b>ACU-GLOSS</b>	Clear acrylic finish.

#### 2.2 Delivery and storage

2.3 Materials shall be delivered in their original, tightly sealed containers or unopened packages, all clearly labeled with the manufacturer's name, file number, and lot numbers.

2.4 Materials shall be stored out of the weather in their original tightly sealed containers or unopened containers as recommended by the manufacturer. Do not allow liquid coating to freeze.

### 3.0 SURFACE PREPARATION

3.1 Preparation shall include all requirements specified by Advanced Coating Systems, Inc. to ensure proper adhesion of the Energy Seal Coatings products to the existing substrate. **New galvanized METAL ROOFING surfaces must be allowed to cure a minimum of 90 days prior to application or treated with approved surface conditioners by the manufacturer.**

3.2 Preparation shall include but not limited to the following:

3.3 All unnecessary and non-functional equipment and debris shall be removed from the roof.

3.4 Substrate must be pressure-washed. A minimum working pressure of 3,000 psi shall be used to remove all dirt, dust, previous paints & coatings which are delaminating as well as waste products (oil, oil-based roof cements, solvents, grease, animal fats, etc). Roto-spray tip is recommended to expedite metal surface cleaning. Thoroughly rinse roof surface to make sure there is no residue left from the cleaning agent.

3.5 HVAC condensate drains shall be permanently routed to roof drains or off roof so as to not adversely affect roof coating system.

3.6 All mechanical fasteners shall be checked for integrity; re-tighten or replace as necessary. Stripped out fasteners shall be replaced using a larger diameter fastener.

- 3.7 Apply ACU-CAULK:FG or ACU-CAULK:BG over all fastener heads, insuring each fastener head is completely sealed without any voids, gaps or holes.
- 3.8 Unsound rust shall be mechanically abraded to remove all loose rust. Metal panels deteriorated to the point that their structural integrity is compromised shall be replaced.
- 3.9 Check all seams to make sure they are tight and flush. Excessive gaps or deflections between panels shall be eliminated by installing additional screws or rivets as necessary to restrict deflection to no more than 1/4 inch.
- 3.10 Reinforce all horizontal (end-laps) and vertical (side-laps) along with roof terminations and flashing, around drains, scuppers and skylights, the base of all vents and around any other penetration with one of the following:
  - 1. - Apply an 8" wide coat of ACU-CAULK:FG to the perimeter of the penetration. Place a 6" wide piece of ACU-FABRIC onto the wet ACU-CAULK:FG. Feathered the ACU-CAULK:FG out 2 inches Passed The ACU-FABRIC.
  - 2. - Apply a 6" wide coat of ACU-CAULK:BG to the perimeter of the penetration to a thickness of 40 - 60 mils.
  - 3. - Apply a coat of ACU-TAC 8" wide. While the ACU-TAC is still wet lay a 6" wide piece of ACU-FABRIC onto the wet ACU-TAC. Smooth the ACU-FABRIC out; making sure to eliminate air bubbles, fishmouths, puckers, folds or any other void. Apply another coat of ACU-TAC on top of the ACU-FABRIC. Make sure the ACU-TAC has completely saturated the ACU-FABRIC.
- 3.11 When calculating roof area add 25% of the floor area of the building to compensate for the pitch of the roof and the profile of the metal roofing pane or measure one roof panel using a tape measure or string to calculate the actual surface area of the roof panel.

#### **4.0 COATING APPLICATION**

- 4.1 Examine substrate to receive roof coating. Do not proceed with installation of Energy Seal Coatings until unsatisfactory conditions have been corrected in a manner acceptable to the manufacturer.
- 4.2 Treatment of Residual Asphalt: Installer shall make every effort to remove all loosely adhered asphaltic roofing elements. Removal efforts must include the use of pressure-washers, scrapers, wire brushes, wire-wheels, or other similar tools. Residual asphaltic areas are to be coated with ACU-RUST PRIME or ACU-RUST PRIME.
- 4.3 All existing sound rust shall be primed with ACU-RUST PRIME in the following manner:
  - 1 - No rust, prime roof surface with ACU-RUST PRIME at a rate of 300 sq.ft per gallon
  - 2 - Light or Flash rust areas will be primed with ACU-RUST PRIME at a rate of 250 - 300 sq.ft. per gallon
  - 3 - Medium to Heavy rust areas will be primed with ACU-RUST PRIME at a rate of 100 - 150 sq.ft. per gallon.
- 4.4 ACU-RUST PRIME must be allowed to cure for 24 – 48 hours depending on humidity and temperature. The roof is to be inspected for defects, flaws or holidays and repaired if necessary.
- 4.5 Apply ACU-SHIELD elastomeric coating by airless spray equipment, using a multi-pass spray technique to ensure even application to all sides of metal panel corrugations. Make a conscious effort to apply coating into crimped or presealed seams that have not been detailed. Use a wet film gauge often to measure film thickness. Wet film thickness should be twice as thick as the desired dry film thickness.
- 4.5 Apply first coat of ACU-SHIELD: First coat shall be applied perpendicular to the ribs of the metal roofing. Dry film thickness shall be approximately 10 mils.
- 4.6 Apply second coat of ACU-SHIELD: Second coat shall be applied parallel to the ribs of the metal roofing. Dry film thickness shall be approximately 10 mils.
- 4.7 Apply third coat of ACU-SHIELD: First coat shall be applied perpendicular to the ribs of the metal roofing. Dry film thickness shall be approximately 10 mils.

- 4.8 Each coat must be allowed to cure for 24 - 48 hours depending on humidity and temperature. The roof is to be inspected for defects, flaws or holidays and repaired if necessary before a subsequent coat is applied.
- 4.9 Apply ACU-GLOSS clear acrylic coating is to be applied only after the ACU-SHIELD has thoroughly cured and dried for at least 24 hours.
- 4.8 Each coat must be allowed to cure for 24 - 48 hours depending on humidity and temperature. The roof is to be inspected for defects, flaws or holidays and repaired if necessary before a subsequent coat is applied.

## 5.0 APPLICATION RATES

- 5.1 **Standard** 10-year warranty: Detail as per 3.10. Apply ACU-RUST PRIME (see 4.4) Apply two coats of ACU-SHIELD (see 4.4 - 4.5) at a rate of 1.0 gal./100 sq.ft., per coat. Minimum dry film thickness 20 mils, excluding seam, flashing, joints and other detail areas.
- 5.2 **Extended** 12-year warranty: Detail as per 3.10. Apply ACU-RUST PRIME (see 4.4) Apply two coats of ACU-SHIELD (see 4.4 - 4.5) at a rate of 1.0 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-SHIELD at a rate of 1.0 gal./ 200 sq.ft. (see 4.9). Minimum dry film thickness 20 - 23 mils, excluding seam, flashing, joints and other detail areas.
- 5.3 **Elite** 15-year warranty: Detail as per 3.10 Apply ACU-RUST PRIME (see 4.2) Apply three coats of ACU-SHIELD (see 4.4 - 4.6) at a rate of 1.0 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-SHIELD at a rate of 1.0 gal./ 200 sq.ft. (see 4.9). Minimum dry film thickness 30 - 33 mils, excluding seam, flashing, joints and other detail areas.

## 6.0 RESTRICTIONS / LIMITATIONS

- 6.1 This system is to be used only in conjunction with commonly accepted roofing standards but not limited to the following:
- 6.2 No application of materials shall commence during inclement weather or when precipitation is imminent. **No thinning of materials is permitted.**
- 6.3 No materials are to be applied to wet, dirty, or frozen surfaces.
- 6.4 No materials are to be applied at temperatures below 40° F.
- 6.5 Do not apply when dew point is within 5°F of of the surface temperature or if freezing temperatures (32°F or lower) are forecasted for the following 24 hours after application of coating products.
- 6.6 No materials are to be applied at ambient air temperatures above 100° F.
- 6.7 No materials are to be applied at relative humidity levels above 88%.
- 6.8 Do not spray apply if the wind velocity exceeds 10 mph without taking precautions to eliminate over spray.
- 6.9 Take all necessary precautions to protect unrelated surfaces from coating over spray or spillage
- 6.7 In conjunction with the final inspection, all debris, containers, materials and equipment are to be properly removed from the job site. Grounds are to be cleaned undamaged and acceptable to the owner.
- 6.8 Reflectivity of coatings may be reduced if roof surface is not cleaned on a regularly scheduled basis.
- 6.9 Ponding water areas must be repaired prior to any coating application to allow water to drain off the roof.

**CAUTION:** Do not apply within two hours of sunset, rain, fog or freezing temperatures. Energy Seal Coatings must be completely dry before exposing to water or foot traffic. Keep Energy Seal Coatings containers covered when not in use. Dispose of all containers in accordance with state and local environmental regulations. Keep away from children. If ingested, DO NOT induce vomiting. Call Physician immediately.

Our suggested installation specifications are based on information from laboratory and field testing which we believe to be reliable and correct; however, accuracy and completeness of said tests are not guaranteed and not to be construed as a warranty, either expressed or implied. Since the use of the material is beyond manufacturer's control, buyer assumes all risk whatsoever as to their use or results obtained. We guarantee our products to conform to Advanced Coating Systems, Inc. quality control. Advanced Coating Systems, Inc. warrants only the standard quality of material. Manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proved to be defective.

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# METAL ROOF INSPECTION REPORT

Prepared for \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

Company \_\_\_\_\_ Street Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

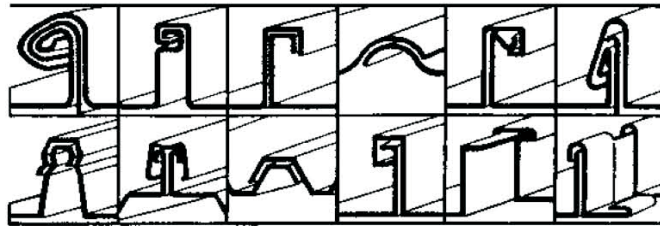
Phone \_\_\_\_\_

Building/Roof Identification Name or No. \_\_\_\_\_

Submitted by \_\_\_\_\_

## THE ROOF –

Per drawing at right indicate closest design of roof.



Size of roof area \_\_\_\_\_ (square feet)

Age of roof \_\_\_\_\_ (years)



Dead Level



Less than 1" Rise Per Foot



1" to 2" Rise Per Foot



3" Rise Per Foot or more

Previously Coated?  Yes  No Factory Finish?  Yes  No If yes, what kind of finish? \_\_\_\_\_

Maintenance Product?  Yes  No If finish in Kynar 500 or metal roof panels were previously coated with a silicone-based coating, please contact the Technical Service Department for surface preparation recommendations.

## ROOF CONDITION – Indicate condition of roof below:

- Paint Peeling/Flaking .....  Yes  No \_\_\_\_\_%
- Surface Rust (light) .....  Yes  No \_\_\_\_\_%
- Flaking, Scaling Rust (heavy) .....  Yes  No \_\_\_\_\_%
- Panel/Panel Section Replacement .....  Yes  No \_\_\_\_\_%
- Leak Problems .....  Yes  No \_\_\_\_\_%

## DETAILS

No Action

Action

Fasteners \_\_\_\_\_

Skylights \_\_\_\_\_

Ridge Cap \_\_\_\_\_

Stacks/Vents \_\_\_\_\_

Seams (horizontal) End-laps \_\_\_\_\_

Seams (vertical) Side-laps \_\_\_\_\_

Gutters \_\_\_\_\_

Contaminants \_\_\_\_\_

Other Comments: \_\_\_\_\_

\_\_\_\_\_

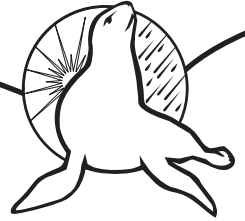
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

This inspection has been performed solely for the owner's benefit and indicates only that the described items have been visually inspected in order to determine, to the extent feasible, whether such details need attention in the inspector's opinion. Neither the performance of this inspection nor any information contained in this inspection report implies the acceptance of any particular roof design, installation procedure or roof component.

# Energy Seal Coatings



## WARRANTY SPECIFICATIONS FOR COATING **MODIFIED BITUMEN ROOFING**

### 1.0 SCOPE

The intention of this specification is to outline the procedures for the application of Energy Seal Coatings reflective roof coatings for the purpose of coating **MODIFIED BITUMEN** roof surfaces. These suggested specifications describe materials, methods and conditions necessary for the proper application of Energy Seal Coatings. Actual application requirements are the responsibility of the installer.

### 2.0 MATERIALS

All Materials used shall be manufactured by and or approved by Advanced Coating Systems, Inc. Please refer to our product data sheets for technical specifications:

#### 2.1 Elastomeric Coating System

<b>ACU-SHIELD</b>	Acrylic, elastomeric roof coating.
<b>ACU-CAULK:BG</b>	Acrylic, elastomeric brush grade caulk.
<b>ACU-CAULK:FG</b>	Fibered, acrylic, reinforced, elastomeric flashing grade caulk.
<b>ACU-PRIME ALL</b>	Durable primer for non-metal or non-rusted metal surfaces.
<b>ACU-GLOSS</b>	Clear acrylic finish.
<b>ACU-FABRIC</b>	Spunbound polyester reinforcing scrim.

#### 2.2 Delivery and storage:

2.3 Materials shall be delivered in their original, tightly sealed containers or unopened packages, all clearly labeled with the manufacturer's name, file number, and batch numbers.

2.4 Materials shall be stored out of the weather in their original tightly sealed containers or unopened containers as recommended by the manufacturer. Do not allow liquid coating to freeze.

### 3.0 SURFACE PREPARATION

3.1 Preparation shall include all requirements specified by Advanced Coating Systems, Inc., to ensure proper adhesion of the Energy Seal Coatings products to the existing substrate. **New MODIFIED BITUMEN roof surfaces shall be allowed to cure a minimum of 90 days prior to application.**

3.2 Preparation shall include but not limited to the following:

3.3 All unnecessary and non-functional equipment and debris shall be removed from the roof.

3.4 Substrate must be pressure-washed. A minimum working pressure of 3,000 psi shall be used to remove all dirt, dust, previous paints & coatings which are delaminating as well as waste products (oil, oil-based roof cements, solvents, grease, animal fats, etc). Use TSP (Tri Sodium Phosphate) or a similar cleaning solution. Thoroughly rinse roof surface to make sure there is no residue left from the cleaning agent.

3.5 HVAC condensate drains shall be permanently routed to roof drains or off roof so as to not adversely affect roof coating system

3.6 Determine moisture content of existing **MODIFIED BITUMEN** roof deck. A moisture content of 15% or greater indicates a potential problem. Work shall not proceed until the cause of high moisture content is verified and the condition is corrected.

- 3.7 Inspect the condition of flashing details adjacent to protrusions, penetrations, roof mounted equipment, curbs, walls, parapets, drains and roof edge to ensure that details are acceptable and will maintain a weather-tight installation after properly reinforced and coated.
- 3.8 Ponding Water: Contractor shall mechanically eliminate all ponding water areas on the roof prior to application of roof coatings ("Ponding water" is defined as water which does not properly drain and remains for more than 48 hours).
- 3.9 Any unsound areas in the roof deck or insulation, including blisters, delimitation, deterioration, excessive moisture content, etc shall be repaired or replaced. All blisters, delimitations, wrinkles and loose areas shall either be cut away and removed, or cut open and mailed flat to the roof deck.
- 3.10 Reinforce all repaired areas by applying a heavy coat of ACU-TAC on an around the repair at a rate of 100 square feet per gallon. While the ACU-TAC is still wet apply an appropriate size piece of ACU-FABRIC on top of the repair area, allowing ACU-FABRIC to overlap onto sound roof surface; assure that there is a heavy coat of ACU-TAC under the overlap. Make sure there are no wrinkles, puckers or folds in the ACU-FABRIC. Apply a second coat of ACU-TAC on top of the ACU-FABRIC as a rate of 100 square feet per gallon using a 6" deck brush, making sure the ACU-FABRIC is completely saturated with no wrinkles or puckers. Allow 24 hours to dry before top coating with ACU-SHIELD.
- 3.11 All cracks, splits, voids or holes larger than 1/8" in width shall be filled and leveled with ACU-CAULK:FG.
- 3.12 Reinforce all seams, parapet terminations along with roof terminations and flashing's, around drains, scuppers and skylights, the base of all vents and around any other penetration with one of the following:
1. - Apply a heavy coat of ACU-CAULK:BG around the area to be detailed. Place a appropriate strip of ACU-FABRIC onto the wet ACU-CAULK:BG. Work ACU-FABRIC into ACU-CAULK:BG using a brush, roller, or soft bristle deck broom to eliminate air pockets, puckers, wrinkles, gaps or folds, applying ACU-CAULK:BG as necessary to fully encapsulate the ACU-FABRIC. Make sure to extend the ACU-CAULK:BG at least 4" past the ACU-FABRIC.
  2. - Apply a heavy coat of ACU-CAULK:FG to the perimeter of the penetration to a thickness of 40 - 60 mils. Feather out the edges at least 4" past the repaired area.
  3. - Applying a heavy coat of ACU-TAC on an around the repair at a rate of 2.5 gallons per 100 square feet. While the ACU-TAC is still wet apply an appropriate size piece of ACU-FABRIC on top of the repair area, allowing ACU-FABRIC to overlap onto sound roof surface; assure that there is a heavy coat of ACU-TAC under the overlap. Make sure there are no wrinkles, puckers or folds in the ACU-FABRIC. Apply a second coat of ACU-TAC on top of the ACU-FABRIC at a rate of 2.5 gallons per 100 square feet using a 6" deck brush, making sure the ACU-FABRIC is completely saturated with no wrinkles or puckers.

#### 4.0 COATING APPLICATION

- 4.1 Examine substrate to receive roof coating. Do not proceed with installation of Energy Seal Coatings until unsatisfactory conditions have been corrected in a manner acceptable to the manufacturer.
- 4.2 Use a wet film gauge to determine coating thickness every 500 sq.ft. The wet film thickness should be at least twice as thick as the desired dry film thickness per coat. For instance, one coat of ACU-SHIELD is to be applied at a thickness of 10 DRY mils. The wet film thickness should be 20 mils.
- 4.3 Entire roof shall be primed with ACU-PRIME ALL at a rate of 200 square feet per gallon. ACU-PRIME ALL must be allowed to cure for 24 hours.
- 4.4 Apply ACU-SHIELD elastomeric coating by airless spray equipment, using a mulit-pass spray technique to ensure even application to the **MODIFIED BITUMEN**. Use a wet film gauge often to measure film thickness. Wet film thickness should be twice as thick as the desired dry film thickness.
- 4.5 Apply first coat of ACU-SHIELD: First coat shall be applied perpendicular to the seams of the **MODIFIED BITUMEN** roofing. Dry film thickness shall be approximately 10 mils. shall be approximately 10 mils.

- 4.6 Apply second coat of ACU-SHIELD: Second coat shall be applied parallel to the first coat. Dry film thickness shall be approximately 10 mils.
- 4.7 Apply third coat of ACU-SHIELD: Third coat shall be applied perpendicular to the second coat. Dry film thickness shall be approximately 10 mils.
- 4.8 Apply ACU-GLOSS clear acrylic coating is to be applied only after the ACU-SHIELD has thoroughly cured and dried for at least 24 hours.
- 4.9 Each coat must be allowed to cure for 24 - 48 hours depending on humidity and temperature. The roof is to be inspected for defects, flaws or holidays and repaired if necessary before a subsequent coat is applied.

## 5.0 APPLICATION RATES

- 5.1 **Standard** 10-year warranty: Detail as per 3.12. Apply ACU-PRIME ALL (see 4.3) Apply two coats of ACU-SHIELD (see 4.5 - 4.6) at a rate of 1.0 gal./100 sq.ft., per coat. Minimum dry film thickness 20 mils, excluding seam, flashing, joints and other detail areas.
- 5.2 **Extended** 12-year warranty: Detail as per 3.12. Apply ACU-PRIME ALL (see 4.3) Apply two coats of ACU-SHIELD (see 4.5 - 4.6) at a rate of 1.0 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-SHIELD at a rate of 1.0 gal./ 200 sq.ft. (see 4.8). Minimum dry film thickness 20 - 23 mils, excluding seam, flashing, joints and other detail areas.
- 5.3 **Elite** 15-year warranty: Detail as per 3.12 Apply ACU-PRIME ALL (see 4.3) Apply three coats of ACU-SHIELD (see 4.5 - 4.7) at a rate of 1.0 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-SHIELD at a rate of 1.0 gal./ 200 sq.ft. (see 4.8). Minimum dry film thickness 30 - 33 mils, excluding seam, flashing, joints and other detail areas.

## 6.0 RESTRICTIONS / LIMITATIONS

- 6.1 This system is to be used only in conjunction with commonly accepted roofing standards but not limited to the following:
- 6.2 No application of materials shall commence during inclement weather or when precipitation is imminent. **No thinning of materials is permitted.**
- 6.3 No materials are to be applied to wet, dirty, or frozen surfaces.
- 6.4 No materials are to be applied at temperatures below 40° F.
- 6.5 Do not apply when dew point is within 5°F of of the surface temperature or if freezing temperatures (32°F or lower) are forecasted for the following 24 hours after application of coating products.
- 6.6 No materials are to be applied at ambient air temperatures above 100° F.
- 6.7 No materials are to be applied at relative humidity levels above 88%.
- 6.8 Do not spray apply if the wind velocity exceeds 10 mph without taking precautions to eliminate over spray.
- 6.9 Take all necessary precautions to protect unrelated surfaces from coating over spray or spillage
- 6.10 In conjunction with the final inspection, all debris, containers, materials and equipment are to be properly removed from the job site. Grounds are to be cleaned undamaged and acceptable to the owner.
- 6.11 Reflectivity of coatings may be reduced if roof surface is not cleaned on a regularly scheduled basis.
- 6.12 Ponding water areas must be repaired prior to any coating application to allow water to drain off the roof.

**CAUTION:** Do not apply within two hours of sunset, rain, fog or freezing temperatures. Energy Seal Coatings must be completely dry before exposing to water or foot traffic. Keep Energy Seal Coatings containers covered when not in use. Dispose of all containers in accordance with state and local environmental regulations. Keep away from children. If ingested, DO NOT induce vomiting. Call Physician immediately.

Our suggested installation specifications are based on information from laboratory and field testing which we believe to be reliable and correct; however, accuracy and completeness of said tests are not guaranteed and not to be construed as a warranty, either expressed or implied. Since the use of the material is beyond manufacturer's control, buyer assumes all risk whatsoever as to their use or results obtained. We guarantee our products to conform to Advanced Coating Systems, Inc. quality control. Advanced Coating Systems, Inc. warrants only the standard quality of material. Manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proved to be defective.

*Manufactured by Advanced Coating Systems, Inc.*

*www.energy-seal.com*

**Seal It. Conserve It. Protect It.**

**800-587-3758**

# BUILT-UP ROOF INSPECTION REPORT

Prepared for \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_  
 Company \_\_\_\_\_ Street Address \_\_\_\_\_  
 City/State/Zip \_\_\_\_\_  
 Phone \_\_\_\_\_  
 Building/Roof Identification Name or No. \_\_\_\_\_  
 Submitted by \_\_\_\_\_  
 Size of roof area \_\_\_\_\_ (square feet) Age of roof \_\_\_\_\_ (years)

**Type of BUR**

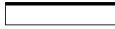



- Asphalt & Gravel
- Smooth Asphalt
- Tar & Gravel
- Mineral-Surfaced Rolled Roofing
- Other \_\_\_\_\_

**Insulation**

- Yes  No

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Slope**

-   Dead Level
-   Less than 1" Per Foot
-   1" to 2" Rise Per Foot
-   3" Rise Per Foot or more

**Indicate Condition of Items Below:**

**Roof Drainage**

No Action   Action

Ponding  Yes \_\_\_\_%.  No (If yes, estimate % of roof area.)

Scuppers \_\_\_\_\_

Drains \_\_\_\_\_

Downspouts \_\_\_\_\_

Gutters \_\_\_\_\_

Other \_\_\_\_\_

**Roof Surface**

Blistering \_\_\_\_\_

Punctures \_\_\_\_\_

Splitting \_\_\_\_\_

Attachment to Substrate \_\_\_\_\_

Ridging, Wrinkling \_\_\_\_\_

Fasteners \_\_\_\_\_

Open Laps, Fishmouthing \_\_\_\_\_

Membrane Slippage \_\_\_\_\_

Excessive Traffic Wear \_\_\_\_\_

Bare Spots in Gravel, Coating \_\_\_\_\_

Alligatoring, Cracking \_\_\_\_\_

Gravel Ballast Displaced \_\_\_\_\_

Surface Coating Degradation \_\_\_\_\_

Other \_\_\_\_\_

**Expansion Joint Covers**

No Action   Action

Open Joints \_\_\_\_\_

Rusting \_\_\_\_\_

Punctures, Splits \_\_\_\_\_

Fasteners \_\_\_\_\_

Securement \_\_\_\_\_

Other \_\_\_\_\_

**Parapet Wall**

Mortar Joints \_\_\_\_\_

Spalling \_\_\_\_\_

Movement Cracks \_\_\_\_\_

Other \_\_\_\_\_

**Coping**

Open Fractures \_\_\_\_\_

Fasteners \_\_\_\_\_

Attachment \_\_\_\_\_

Caulking \_\_\_\_\_

Rusting \_\_\_\_\_

Other \_\_\_\_\_

**Roof Edging and Fascia**

Splitting \_\_\_\_\_

Fasteners \_\_\_\_\_

Securement \_\_\_\_\_

Damaged \_\_\_\_\_

Rusting \_\_\_\_\_

Felt Deterioration \_\_\_\_\_

Other \_\_\_\_\_

**Base Flashing**

No Action   Action

Punctures, Damage \_\_\_\_\_

Open Laps \_\_\_\_\_

Deterioration \_\_\_\_\_

Attachment \_\_\_\_\_

Splits, Cracks \_\_\_\_\_

Ridging or Wrinkling \_\_\_\_\_

Blistering \_\_\_\_\_

Termination Bars \_\_\_\_\_

Other \_\_\_\_\_

**Roof Penetrations, Equipment Base, Housing**

Deteriorated Curbing \_\_\_\_\_

Physical Damage \_\_\_\_\_

Open Laps \_\_\_\_\_

Caulking \_\_\_\_\_

Punctures \_\_\_\_\_

Counter Flashing \_\_\_\_\_

Open Seams \_\_\_\_\_

Other \_\_\_\_\_

**Equipment Operation**

Discharge of Contaminants \_\_\_\_\_

Vapor Condensate \_\_\_\_\_

Other \_\_\_\_\_

**Pitch Pans**

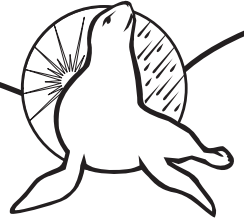
Fill Material Shrinkage \_\_\_\_\_

Attachment \_\_\_\_\_

Fill Crowned for Drainage \_\_\_\_\_

This inspection has been performed solely for the owner's benefit and indicates only that the described items have been visually inspected in order to determine, to the extent feasible, whether such details need attention in the inspector's opinion. Neither the performance of this inspection nor any information contained in this inspection report implies the acceptance of any particular roof design, installation procedure or roof component.

# Energy Seal Coatings



## WARRANTY SPECIFICATIONS FOR COATING NEW POLYURETHANE FOAM ROOFING

### 1.0 SCOPE

The intention of this specification is to outline the procedures for the application of Energy Seal Coatings reflective roof coatings for the purpose of coating **NEW POLYURETHANE FOAM ROOFING (PUF)** roof surfaces. These suggested specifications describe materials, methods and conditions necessary for the proper application of Energy Seal Coatings. Actual application requirements are the responsibility of the installer.

### 2.0 MATERIALS

All Materials used shall be manufactured by and or approved by Advanced Coating Systems, Inc. Please refer to our product data sheets for technical specifications:

#### 2.1 Elastomeric Coating System

<b>ACU-FLEX</b>	Acrylic, elastomeric roof coating.
<b>ACU-PRIME ALL</b>	Durable primer for non-metal or non-rusted metal surfaces.
<b>ACU-GLOSS</b>	Clear acrylic finish.

#### 2.2 Delivery and storage:

2.3 Materials shall be delivered in their original, tightly sealed containers or unopened packages, all clearly labeled with the manufacturer's name, file number, and batch numbers.

2.4 Materials shall be stored out of the weather in their original tightly sealed containers or unopened containers as recommended by the manufacturer. Do not allow liquid coating to freeze.

### 3.0 SURFACE PREPARATION

3.1 Preparation shall include all requirements specified by Advanced Coating Systems, Inc., to ensure proper adhesion of the Energy Seal Coatings products to the existing substrate. **New PUF roof surfaces shall be coated within 72 hours of application.**

3.2 Preparation shall include but not limited to the following:

3.3 **PUF** surface shall be free from loose dirt, stone, debris, moisture and shall be in stable condition. Any work on the area to receive any Energy Seal Coatings products shall be completed prior to installation.

3.4 Substrate must be cleaned using power vacuum equipment, power sweepers, air blowers power washer or other suitable means.

3.5 HVAC condensate drains shall be permanently routed to roof drains or off roof so as to not adversely affect roof coating system.

3.6 Sprayed in place polyurethane foam is applied at a desired thickness (1" (93 cm)) to fulfill thermal insulation requirements and to provide seamless monolithic surface over a variety of roof designs, shapes, and draining slopes.

3.7 Ponding Water: Contractor shall mechanically eliminate all ponding water areas on the roof prior to application of roof coatings ("Ponding water" is defined as water which does not properly drain and remains for more than 48 hours).

## 4.0 COATING APPLICATION

- 4.1 Examine substrate to receive roof coating. Do not proceed with installation of Energy Seal Coatings until unsatisfactory conditions have been corrected in a manner acceptable to the manufacturer.
- 4.2 Use a wet film gauge to determine coating thickness every 500 sq.ft. The wet film thickness should be at least twice as thick as the desired dry film thickness per coat. For instance, one coat of ACU-FLEX is to be applied at a thickness of 10 DRY mils. The wet film thickness should be 20 mils.
- 4.3 Entire roof shall be primed with ACU-PRIME ALL at a rate of 200 square feet per gallon. ACU-PRIME ALL must be allowed to cure for 24 hours.
- 4.4 Apply ACU-FLEX elastomeric coating by airless spray equipment, using a multi-pass spray technique to ensure even application to the **PUF** roof surface. Use a wet film gauge often to measure film thickness. Wet film thickness should be twice as thick as the desired dry film thickness.
- 4.5 Apply first coat of ACU-FLEX: First coat shall be applied perpendicular to the seams of the **PUF** roof surface. Dry film thickness shall be approximately 10 mils.
- 4.6 Apply second coat of ACU-FLEX: Second coat shall be applied parallel to the first coat. Dry film thickness shall be approximately 10 mils.
- 4.7 Apply third coat of ACU-FLEX: Third coat shall be applied perpendicular to the second coat. Dry film thickness shall be approximately 10 mils.
- 4.8 Apply ACU-GLOSS clear acrylic coating is to be applied only after the ACU-FLEX has thoroughly cured and dried for at least 24 hours.
- 4.9 Each coat must be allowed to cure for 24 - 48 hours depending on humidity and temperature. The roof is to be inspected for defects, flaws or holidays and repaired if necessary before a subsequent coat is applied.

## 5.0 APPLICATION RATES

- 5.1 **Standard** 10-year warranty: Apply ACU-PRIME ALL (see 4.3) Apply two coats of ACU-FLEX (see 4.5 - 4.5) at a rate of 1.5 gal./100 sq.ft., per coat. Minimum dry film thickness 20 mils, excluding seam, flashing, joints and other detail areas.
- 5.2 **Extended** 12-year warranty: Apply ACU-PRIME ALL (see 4.3) Apply two coats of ACU-FLEX (see 4.5 - 4.6) at a rate of 1.5 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-FLEX at a rate of 1.0 gal./ 200 sq.ft. (see 4.8). Minimum dry film thickness 20 - 23 mils, excluding seam, flashing, joints and other detail areas.
- 5.3 **Elite** 15-year warranty: Apply ACU-PRIME ALL (see 4.3) Apply three coats of ACU-FLEX (see 4.5 - 4.7) at a rate of 1.5 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-FLEX at a rate of 1.0 gal./ 200 sq.ft. (see 4.8). Minimum dry film thickness 30 - 33 mils, excluding seam, flashing, joints and other detail areas.
- 5.4 NOTE: All roofs with less than 2/12 pitch. Acu-Flex:Hydro should be used in place of Acu-Flex at a rate of 1.5 gallons per 100 sq.ft., per coat.

## 6.0 RESTRICTIONS / LIMITATIONS

- 6.1 This system is to be used only in conjunction with commonly accepted roofing standards but not limited to the following:
- 6.2 No application of materials shall commence during inclement weather or when precipitation is imminent. **No thinning of materials is permitted.**
- 6.3 No materials are to be applied to wet, dirty, or frozen surfaces.
- 6.4 No materials are to be applied at temperatures below 40° F.

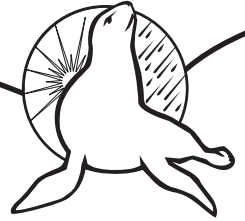
- 6.5 Do not apply when dew point is within 5°F of the surface temperature or if freezing temperatures (32°F or lower) are forecasted for the following 24 hours after application of coating products.
- 6.4 No materials are to be applied at temperatures below 40° F.
- 6.5 Do not apply when dew point is within 5°F of of the surface temperature or if freezing temperatures (32°F or lower) are forecasted for the following 24 hours after application of coating products.
- 6.6 No materials are to be applied at ambient air temperatures above 100° F.
- 6.7 No materials are to be applied at relative humidity levels above 88%.
- 6.8 Do not spray apply if the wind velocity exceeds 10 mph without taking precautions to eliminate over spray.
- 6.9 Take all necessary precautions to protect unrelated surfaces from coating over spray or spillage
- 6.10 In conjunction with the final inspection, all debris, containers, materials and equipment are to be properly removed from the job site. Grounds are to be cleaned undamaged and acceptable to the owner.
- 6.11 Reflectivity of coatings may be reduced if roof surface is not cleaned on a regularly scheduled basis.
- 6.12 Ponding water areas must be repaired prior to any coating application to allow water to drain off the roof.

**CAUTION:** Do not apply within two hours of sunset, rain, fog or freezing temperatures. Energy Seal Coatings must be completely dry before exposing to water or foot traffic. Keep Energy Seal Coatings containers covered when not in use. Dispose of all containers in accordance with state and local environmental regulations. Keep away from children. If ingested, DO NOT induce vomiting. Call Physician immediately.

Our suggested installation specifications are based on information from laboratory and field testing which we believe to be reliable and correct; however, accuracy and completeness of said tests are not guaranteed and not to be construed as a warranty, either expressed or implied. Since the use of the material is beyond manufacturer's control, buyer assumes all risk whatsoever as to their use or results obtained. We guarantee our products to conform to Advanced Coating Systems, Inc. quality control. Advanced Coating Systems, Inc. warrants only the standard quality of material. Manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proved to be defective.



# Energy Seal Coatings



## WARRANTY SPECIFICATIONS FOR COATING SINGLE-PLY ROOFING

### 1.0 SCOPE

The intention of this specification is to outline the procedures for the application of Energy Seal Coatings reflective roof coatings for the purpose of coating **CAPSHEET** roof surfaces. These suggested specifications describe materials, methods and conditions necessary for the proper application of Energy Seal Coatings. Actual application requirements are the responsibility of the installer.

### 2.0 MATERIALS

All Materials used shall be manufactured by and or approved by Advanced Coating Systems, Inc. Please refer to our product data sheets for technical specifications:

#### 2.1 Elastomeric Coating System

<b>ACU-SHIELD</b>	Acrylic, elastomeric roof coating.
<b>ACU-CAULK:BG</b>	Acrylic, elastomeric brush grade caulk.
<b>ACU-CAULK:FG</b>	Fibered, acrylic, reinforced, elastomeric flashing grade caulk.
<b>ACU-PRIME ALL</b>	Durable primer for non-metal or non-rusted metal surfaces.
<b>ACU-GLOSS</b>	Clear acrylic finish.
<b>ACU-FABRIC</b>	Spunbound polyester reinforcing fabric

#### 2.2 Delivery and storage:

2.3 Materials shall be delivered in their original, tightly sealed containers or unopened packages, all clearly labeled with the manufacturer's name, file number, and lot numbers.

2.4 Materials shall be stored out of the weather in their original tightly sealed containers or unopened containers as recommended by the manufacturer. Do not allow liquid coating to freeze.

### 3.0 SURFACE PREPARATION

3.1 Preparation shall include all requirements specified by Advanced Coating Systems, Inc., to ensure proper adhesion of the Energy Seal Coatings products to the existing substrate. **New SINGLE-PLY roof surfaces shall be allowed to cure a minimum of 90 days prior to application.**

3.2 Preparation shall include but not limited to the following:

3.3 All unnecessary and non-functional equipment and debris shall be removed from the roof.

3.4 Substrate must be pressure-washed. A minimum working pressure of 3,000 psi shall be used to remove all dirt, dust, previous paints & coatings which are delaminating as well as waste products (oil, oil-based roof cements, solvents, grease, animal fats, etc). Use TSP (Tri Sodium Phosphate) or a similar cleaning solution. Thoroughly rinse roof surface to make sure there is no residue left from the cleaning agent.

3.5 HVAC condensate drains shall be permanently routed to roof drains or off roof so as to not adversely affect roof coating system.

3.6 Determine moisture content underlying the **SINGLE-PLY** membrane. A moisture content of 15% or greater indicates a potential problem. Work shall not proceed until the cause of high moisture content is verified and the condition is corrected.

- 3.7 Inspect the condition of flashing details adjacent to protrusions, penetrations, roof mounted equipment, curbs, walls, parapets, drains and roof edge to ensure that details are acceptable and will maintain a weather-tight installation after properly reinforced and coated.
- 3.8 Ponding Water: Contractor shall mechanically eliminate all ponding water areas on the roof prior to application of roof coatings ("Ponding water" is defined as water which does not properly drain and remains for more than 48 hours).
- 3.9 Any unsound areas in the roof deck or insulation, including blisters, delimitation, deterioration, excessive moisture content, etc. Shall be repaired or replaced. All blisters, delimitations, wrinkles and loose areas shall either be cut away and removed, or cut open and mailed flat to the roof deck. Secure/ replace loose underlying fasteners. Relocate fasteners no more than six inches from original location.
- 3.10 Reinforce all repaired areas by applying a heavy coat of ACU-TAC on an around the repair at a rate of 100 square feet per gallon. While the ACU-TAC is still wet apply an appropriate size piece of ACU-FABRIC on top of the repair area, allowing ACU-FABRIC to overlap onto sound roof surface; assure that there is a heavy coat of ACU-TAC under the overlap. Make sure there are no wrinkles, puckers or folds in the ACU-FABRIC. Apply a second coat of ACU-TAC on top of the ACU-FABRIC as a rate of 100 square feet per gallon using a 6" deck brush, making sure the ACU-FABRIC is completely saturated with no wrinkles or puckers. Allow 24 hours to dry before top coating with ACU-SHIELD.
- 3.11 All cracks, splits, voids or holes larger than 1/8" in width shall be filled and leveled with ACU-CAULK:FG.
- 3.12 Reinforce all seams, parapet terminations along with roof terminations and flashing's, around drains, scuppers and skylights, the base of all vents and around any other penetration with one of the following:
1. - Apply a heavy coat of ACU-CAULK:BG around the area to be detailed. Place a appropriate strip of ACU-FABRIC onto the wet ACU-CAULK:BG. Work ACU-FABRIC into ACU-CAULK:BG using a brush, roller, or soft bristle deck broom to eliminate air pockets, puckers, wrinkles, gaps or folds, applying ACU-CAULK:BG necessary to fully encapsulate the ACU-FABRIC. Make sure to extend the ACU-CAULK:BG at least 4" past the ACU-FABRIC.
  2. - Apply a heavy coat of ACU-CAULK:FG to the perimeter of the penetration to a thickness of 40 - 60 mils. Feather out the edges at least 4" past the repaired area.
  3. - Applying a heavy coat of ACU-TAC on an around the repair at a rate of 2.5 gallons per 100 square feet. While the ACU-TAC is still wet apply an appropriate size piece of ACU-FABRIC on top of the repair area, allowing ACU-FABRIC to overlap onto sound roof surface; assure that there is a heavy coat of ACU-TAC under the overlap. Make sure there are no wrinkles, puckers or folds in the ACU-FABRIC. Apply a second coat of ACU-TAC on top of the ACU-FABRIC at a rate of 2.5 gallons per 100 square feet using a 6" deck brush, making sure the ACU-FABRIC is completely saturated with no wrinkles or puckers.

#### 4.0 COATING APPLICATION

- 4.1 Examine substrate to receive roof coating. Do not proceed with installation of Energy Seal Coatings until unsatisfactory conditions have been corrected in a manner acceptable to the manufacturer.
- 4.2 Use a wet film gauge to determine coating thickness every 500 sq.ft. The wet film thickness should be at least twice as thick as the desired dry film thickness per coat. For instance, one coat of ACU-SHIELD is to be applied at a thickness of 10 DRY mils. The wet film thickness should be 20 mils.
- 4.3 Entire roof shall be primed with ACU-PRIME ALL at a rate of 200 square feet per gallon. ACU-PRIME ALL must be allowed to cure for 24 hours.
- 4.4 Apply ACU-SHIELD elastomeric coating by airless spray equipment, using a multi-pass spray technique to ensure even application to the **SINGLE-PLY**. Use a wet film gauge often to measure film thickness. Wet film thickness should be twice as thick as the desired dry film thickness.
- 4.5 Apply first coat of ACU-SHIELD: First coat shall be applied perpendicular to the seams of the **SINGLE-PLY** roofing. Dry film thickness shall be approximately 10 mils.

- 4.6 Apply second coat of ACU-SHIELD: Second coat shall be applied parallel to the first coat. Dry film thickness shall be approximately 10 mils.
- 4.7 Apply third coat of ACU-SHIELD: Third coat shall be applied perpendicular to the second coat. Dry film thickness shall be approximately 10 mils.
- 4.8 Apply ACU-GLOSS clear acrylic coating is to be applied only after the ACU-SHIELD has thoroughly cured and dried for at least 24 hours.
- 4.9 Each coat must be allowed to cure for 24 - 48 hours depending on humidity and temperature. The roof is to be inspected for defects, flaws or holidays and repaired if necessary before a subsequent coat is applied.

## 5.0 APPLICATION RATES

- 5.1 **Standard** 10-year warranty: Detail as per 3.12. Apply ACU-PRIME ALL (see 4.3) Apply two coats of ACU-SHIELD (see 4.5 - 4.6) at a rate of 1.0 gal./100 sq.ft., per coat. Minimum dry film thickness 20 mils, excluding seam, flashing, joints and other detail areas.
- 5.2 **Extended** 12-year warranty: Detail as per 3.12. Apply ACU-PRIME ALL (see 4.3) Apply two coats of ACU-SHIELD (see 4.5 - 4.6) at a rate of 1.0 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-SHIELD at a rate of 1.0 gal./ 200 sq.ft. (see 4.8). Minimum dry film thickness 20 - 23 mils, excluding seam, flashing, joints and other detail areas.
- 5.3 **Elite** 15-year warranty: Detail as per 3.12 Apply ACU-PRIME ALL (see 4.3) Apply three coats of ACU-SHIELD (see 4.5 - 4.7) at a rate of 1.0 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-SHIELD at a rate of 1.0 gal./ 200 sq.ft. (see 4.8). Minimum dry film thickness 30 - 33 mils, excluding seam, flashing, joints and other detail areas.

## 6.0 RESTRICTIONS / LIMITATIONS

- 6.1 This system is to be used only in conjunction with commonly accepted roofing standards but not limited to the following:
- 6.2 No application of materials shall commence during inclement weather or when precipitation is imminent. **No thinning of materials is permitted.**
- 6.3 No materials are to be applied to wet, dirty, or frozen surfaces.
- 6.4 No materials are to be applied at temperatures below 40° F.
- 6.5 Do not apply when dew point is within 5°F of of the surface temperature or if freezing temperatures (32°F or lower) are forecasted for the following 24 hours after application of coating products.
- 6.6 No materials are to be applied at ambient air temperatures above 100° F.
- 6.7 No materials are to be applied at relative humidity levels above 88%.
- 6.8 Do not spray apply if the wind velocity exceeds 10 mph without taking precautions to eliminate over spray.
- 6.9 Take all necessary precautions to protect unrelated surfaces from coating over spray or spillage
- 6.10 In conjunction with the final inspection, all debris, containers, materials and equipment are to be properly removed from the job site. Grounds are to be cleaned undamaged and acceptable to the owner.
- 6.11 Reflectivity of coatings may be reduced if roof surface is not cleaned on a regularly scheduled basis.
- 6.12 Ponding water areas must be repaired prior to any coating application to allow water to drain off the roof.

**CAUTION:** Do not apply within two hours of sunset, rain, fog or freezing temperatures. Energy Seal Coatings must be completely dry before exposing to water or foot traffic. Keep Energy Seal Coatings containers covered when not in use. Dispose of all containers in accordance with state and local environmental regulations. Keep away from children. If ingested, DO NOT induce vomiting. Call Physician immediately.

Our suggested installation specifications are based on information from laboratory and field testing which we believe to be reliable and correct; however, accuracy and completeness of said tests are not guaranteed and not to be construed as a warranty, either expressed or implied. Since the use of the material is beyond manufacturer's control, buyer assumes all risk whatsoever as to their use or results obtained. We guarantee our products to conform to Advanced Coating Systems, Inc. quality control. Advanced Coating Systems, Inc. warrants only the standard quality of material. Manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proved to be defective.

*Manufactured by Advanced Coating Systems, Inc.*

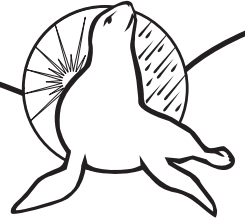
*Www.energy-seal.com*

**Seal It. Conserve It. Protect It.**

**800-587-3758**



# Energy Seal Coatings



## WARRANTY SPECIFICATIONS FOR COATING SMOOTH BUILT-UP ROOFING

### 1.0 SCOPE

The intention of this specification is to outline the procedures for the application of Energy Seal Coatings reflective roof coatings for the purpose of coating **BUILT-UP** roof surfaces. These suggested specifications describe materials, methods and conditions necessary for the proper application of Energy Seal Coatings. Actual application requirements are the responsibility of the installer.

### 2.0 MATERIALS

All Materials used shall be manufactured by and or approved by Advanced Coating Systems, Inc. Please refer to our product data sheets for technical specifications:

#### 2.1 Elastomeric Coating System

<b>ACU-SHIELD</b>	Acrylic, elastomeric roof coating.
<b>ACU-CAULK:BG</b>	Acrylic, elastomeric brush grade caulk.
<b>ACU-CAULK:FG</b>	Fibered, acrylic, reinforced, elastomeric flashing grade caulk.
<b>ACU-PRIME ALL</b>	Durable primer for non-metal or non-rusted metal surfaces.
<b>ACU-GLOSS</b>	Clear acrylic finish.
<b>ACU-FABRIC</b>	Spunbound polyester reinforcing scrim.

#### 2.2 Delivery and storage:

2.3 Materials shall be delivered in their original, tightly sealed containers or unopened packages, all clearly labeled with the manufacturer's name, file number, and batch numbers.

2.4 Materials shall be stored out of the weather in their original tightly sealed containers or unopened containers as recommended by the manufacturer. Do not allow liquid coating to freeze.

### 3.0 SURFACE PREPARATION

3.1 Preparation shall include all requirements specified by Advanced Coating Systems, Inc., to ensure proper adhesion of the Energy Seal Coatings products to the existing substrate. **New BUILT-UP roof surfaces shall be allowed to cure a minimum of 90 days prior to application.**

3.2 Preparation shall include but not limited to the following:

3.3 All unnecessary and non-functional equipment and debris shall be removed from the roof.

3.4 Substrate must be pressure-washed. A minimum working pressure of 3,000 psi shall be used to remove all dirt, dust, previous paints & coatings which are delaminating as well as waste products (oil, oil-based roof cements, solvents, grease, animal fats, etc). Use TSP (Tri Sodium Phosphate) or a similar cleaning solution. Thoroughly rinse roof surface to make sure there is no residue left from the cleaning agent.

3.5 HVAC condensate drains shall be permanently routed to roof drains or off roof so as to not adversely affect roof coating system.

3.6 Determine moisture content of existing **BUILT-UP** roof deck. A moisture content of 15% or greater indicates a potential problem. Work shall not proceed until the cause of high moisture content is verified and the condition is corrected.

- 3.7 Inspect the condition of flashing details adjacent to protrusions, penetrations, roof mounted equipment, curbs, walls, parapets, drains and roof edge to ensure that details are acceptable and will maintain a weather-tight installation after properly reinforced and coated.
- 3.8 Ponding Water: Contractor shall mechanically eliminate all ponding water areas on the roof prior to application of roof coatings ("Ponding water" is defined as water which does not properly drain and remains for more than 48 hours).
- 3.9 Any unsound areas in the roof deck or insulation, including blisters, delimitation, deterioration, excessive moisture content, etc shall be repaired or replaced. All blisters, delimitations, wrinkles and loose areas shall either be cut away and removed, or cut open and mailed flat to the roof deck.
- 3.10 Reinforce all repaired areas by applying a heavy coat of ACU-TAC on an around the repair at a rate of 100 square feet per gallon. While the ACU-TAC is still wet apply an appropriate size piece of ACU-FABRIC on top of the repair area, allowing ACU-FABRIC to overlap onto sound roof surface; assure that there is a heavy coat of ACU-TAC under the overlap. Make sure there are no wrinkles, puckers or folds in the ACU-FABRIC. Apply a second coat of ACU-TAC on top of the ACU-FABRIC as a rate of 100 square feet per gallon using a 6" deck brush, making sure the ACU-FABRIC is completely saturated with no wrinkles or puckers. Allow 24 hours to dry before top coating with ACU-SHIELD
- 3.11 All cracks, splits, voids or holes larger than 1/8" in width shall be filled and leveled with ACU-CAULK:FG.
- 3.12 Reinforce all seams, parapet terminations along with roof terminations and flashing's, around drains, scuppers and skylights, the base of all vents and around any other penetration with one of the following:
1. - Apply a heavy coat of ACU-CAULK:BG around the area to be detailed. Place a appropriate strip of ACU-FABRIC onto the wet ACU-CAULK:BG. Work ACU-FABRIC into ACU-CAULK:BG using a brush, roller, or soft bristle deck broom to eliminate air pockets, puckers, wrinkles, gaps or folds, applying ACU-CAULK:BG as necessary to fully encapsulate the ACU-FABRIC. Make sure to extend the ACU-CAULK:BG at least 4" past the ACU-FABRIC.
  2. - Apply a heavy coat of ACU-CAULK:FG to the perimeter of the penetration to a thickness of 40 - 60 mils. Feather out the edges at least 4" past the repaired area.
  3. - Applying a heavy coat of ACU-TAC on an around the repair at a rate of 2.5 gallons per 100 square feet. While the ACU-TAC is still wet apply an appropriate size piece of ACU-FABRIC on top of the repair area, allowing ACU-FABRIC to overlap onto sound roof surface; assure that there is a heavy coat of ACU-TAC under the overlap. Make sure there are no wrinkles, puckers or folds in the ACU-FABRIC. Apply a second coat of ACU-TAC on top of the ACU-FABRIC at a rate of 2.5 gallons per 100 square feet using a 6" deck brush, making sure the ACU-FABRIC is completely saturated with no wrinkles or puckers.

#### 4.0 COATING APPLICATION

- 4.1 Examine substrate to receive roof coating. Do not proceed with installation of Energy Seal Coatings until unsatisfactory conditions have been corrected in a manner acceptable to the manufacturer.
- 4.2 Use a wet film gauge to determine coating thickness every 500 sq.ft. The wet film thickness should be at least twice as thick as the desired dry film thickness per coat. For instance, one coat of ACU-SHIELD is to be applied at a thickness of 10 mils. The wet film thickness should be 20 mils.
- 4.3 Entire roof shall be primed with ACU-PRIME ALL at a rate of 200 square feet per gallon. ACU-PRIME ALL must be allowed to cure for 24 hours.
- 4.4 Apply ACU-SHIELD elastomeric coating by airless spray equipment, using a mult-pass spray technique to ensure even application to the **BUILT-UP**. Use a wet film gauge often to measure film thickness. Wet film thickness should be twice as thick as the desired dry film thickness.
- 4.5 Apply first coat of ACU-SHIELD: First coat shall be applied perpendicular to the seams of the **BUILT-UP** roofing. Dry film thickness shall be approximately 10 mils.
- 4.6 Apply second coat of ACU-SHIELD: Second coat shall be applied parallel to the first coat. Dry film thickness shall be approximately 10 mils.

- 4.7 Apply third coat of ACU-SHIELD: Third coat shall be applied perpendicular to the second coat. Dry film thickness shall be approximately 10 mils.
- 4.8 Apply ACU-GLOSS clear acrylic coating is to be applied only after the ACU-SHIELD has thoroughly cured and dried for at least 24 hours.
- 4.9 Each coat must be allowed to cure for 24 - 48 hours depending on humidity and temperature. The roof is to be inspected for defects, flaws or holidays and repaired if necessary before a subsequent coat is applied.

## 5.0 APPLICATION RATES

- 5.1 **Standard** 10-year warranty: Detail as per 3.12. Apply ACU-PRIME ALL (see 4.3) Apply two coats of ACU-SHIELD (see 4.5 - 4.6) at a rate of 1.0 gal./100 sq.ft., per coat. Minimum dry film thickness 20 mils, excluding seam, flashing, joints and other detail areas.
- 5.2 **Extended** 12-year warranty: Detail as per 3.12. Apply ACU-PRIME ALL (see 4.3) Apply two coats of ACU-SHIELD (see 4.5 - 4.6) at a rate of 1.0 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-SHIELD at a rate of 1.0 gal./ 200 sq.ft. (see 4.8). Minimum dry film thickness 20 - 23 mils, excluding seam, flashing, joints and other detail areas.
- 5.3 **Elite** 15-year warranty: Detail as per 3.12 Apply ACU-PRIME ALL (see 4.3) Apply threecoats of ACU-SHIELD (see 4.5 - 4.7) at a rate of 1.0 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-SHIELD at a rate of 1.0 gal./ 200 sq.ft. (see 4.8). Minimum dry film thickness 30 - 33 mils, excluding seam, flashing, joints and other detail areas.

## 6.0 RESTRICTIONS / LIMITATIONS

- 6.1 This system is to be used only in conjunction with commonly accepted roofing standards but not limited to the following:
- 6.2 No application of materials shall commence during inclement weather or when precipitation is imminent. **No thinning of materials is permitted.**
- 6.3 No materials are to be applied to wet, dirty, or frozen surfaces.
- 6.4 No materials are to be applied at temperatures below 40° F.
- 6.5 Do not apply when dew point is within 5°F of of the surface temperature or if freezing temperatures (32°F or lower) are forecasted for the following 24 hours after application of coating products.
- 6.6 No materials are to be applied at ambient air temperatures above 100° F.
- 6.7 No materials are to be applied at relative humidity levels above 88%.
- 6.8 Do not spray apply if the wind velocity exceeds 10 mph without taking precautions to eliminate over spray.
- 6.9 Take all necessary precautions to protect unrelated surfaces from coating over spray or spillage
- 6.10 In conjunction with the final inspection, all debris, containers, materials and equipment are to be properly removed from the job site. Grounds are to be cleaned undamaged and acceptable to the owner.
- 6.11 Reflectivity of coatings may be reduced if roof surface is not cleaned on a regularly scheduled basis.
- 6.12 Ponding water areas must be repaired prior to any coating application to allow water to drain off the roof.

**CAUTION:** Do not apply within two hours of sunset, rain, fog or freezing temperatures. Energy Seal Coatings must be completely dry before exposing to water or foot traffic. Keep Energy Seal Coatings containers covered when not in use. Dispose of all containers in accordance with state and local environmental regulations. Keep away from children. If ingested, DO NOT induce vomiting. Call Physician immediately.

Our suggested installation specifications are based on information from laboratory and field testing which we believe to be reliable and correct; however, accuracy and completeness of said tests are not guaranteed and not to be construed as a warranty, either expressed or implied. Since the use of the material is beyond manufacturer's control, buyer assumes all risk whatsoever as to their use or results obtained. We guarantee our products to conform to Advanced Coating Systems, Inc. quality control. Advanced Coating Systems, Inc. warrants only the standard quality of material. Manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proved to be defective.

# BUILT-UP ROOF INSPECTION REPORT

Prepared for \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

Company \_\_\_\_\_ Street Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

Phone \_\_\_\_\_

Building/Roof Identification Name or No. \_\_\_\_\_

Submitted by \_\_\_\_\_

Size of roof area \_\_\_\_\_ (square feet) Age of roof \_\_\_\_\_ (years)

**Type of BUR**

- Asphalt & Gravel
- Smooth Asphalt
- Tar & Gravel
- Mineral-Surfaced Rolled Roofing
- Other \_\_\_\_\_

**Insulation**

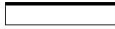



- Yes  No

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Slope**

-   Dead Level
-   Less than 1" Per Foot
-   1" to 2" Rise Per Foot
-   3" Rise Per Foot or more

**Indicate Condition of Items Below:**

**Roof Drainage**

No Action   Action

Ponding  Yes \_\_\_\_%.  No (If yes, estimate % of roof area.)

Scuppers \_\_\_\_\_

Drains \_\_\_\_\_

Downspouts \_\_\_\_\_

Gutters \_\_\_\_\_

Other \_\_\_\_\_

**Roof Surface**

Blistering \_\_\_\_\_

Punctures \_\_\_\_\_

Splitting \_\_\_\_\_

Attachment to Substrate \_\_\_\_\_

Ridging, Wrinkling \_\_\_\_\_

Fasteners \_\_\_\_\_

Open Laps, Fishmouthing \_\_\_\_\_

Membrane Slippage \_\_\_\_\_

Excessive Traffic Wear \_\_\_\_\_

Bare Spots in Gravel, Coating \_\_\_\_\_

Alligatoring, Cracking \_\_\_\_\_

Gravel Ballast Displaced \_\_\_\_\_

Surface Coating Degradation \_\_\_\_\_

Other \_\_\_\_\_

**Expansion Joint Covers**

No Action   Action

Open Joints \_\_\_\_\_

Rusting \_\_\_\_\_

Punctures, Splits \_\_\_\_\_

Fasteners \_\_\_\_\_

Securement \_\_\_\_\_

Other \_\_\_\_\_

**Parapet Wall**

Mortar Joints \_\_\_\_\_

Spalling \_\_\_\_\_

Movement Cracks \_\_\_\_\_

Other \_\_\_\_\_

**Coping**

Open Fractures \_\_\_\_\_

Fasteners \_\_\_\_\_

Attachment \_\_\_\_\_

Caulking \_\_\_\_\_

Rusting \_\_\_\_\_

Other \_\_\_\_\_

**Roof Edging and Fascia**

Splitting \_\_\_\_\_

Fasteners \_\_\_\_\_

Securement \_\_\_\_\_

Damaged \_\_\_\_\_

Rusting \_\_\_\_\_

Felt Deterioration \_\_\_\_\_

Other \_\_\_\_\_

**Base Flashing**

No Action   Action

Punctures, Damage \_\_\_\_\_

Open Laps \_\_\_\_\_

Deterioration \_\_\_\_\_

Attachment \_\_\_\_\_

Splits, Cracks \_\_\_\_\_

Ridging or Wrinkling \_\_\_\_\_

Blistering \_\_\_\_\_

Termination Bars \_\_\_\_\_

Other \_\_\_\_\_

**Roof Penetrations, Equipment Base, Housing**

Deteriorated Curbing \_\_\_\_\_

Physical Damage \_\_\_\_\_

Open Laps \_\_\_\_\_

Caulking \_\_\_\_\_

Punctures \_\_\_\_\_

Counter Flashing \_\_\_\_\_

Open Seams \_\_\_\_\_

Other \_\_\_\_\_

**Equipment Operation**

Discharge of Contaminants \_\_\_\_\_

Vapor Condensate \_\_\_\_\_

Other \_\_\_\_\_

**Pitch Pans**

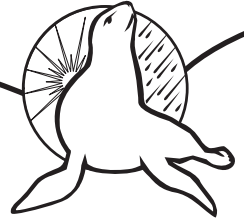
Fill Material Shrinkage \_\_\_\_\_

Attachment \_\_\_\_\_

Fill Crowned for Drainage \_\_\_\_\_

This inspection has been performed solely for the owner's benefit and indicates only that the described items have been visually inspected in order to determine, to the extent feasible, whether such details need attention in the inspector's opinion. Neither the performance of this inspection nor any information contained in this inspection report implies the acceptance of any particular roof design, installation procedure or roof component.

# Energy Seal Coatings



## WARRANTY SPECIFICATIONS FOR COATING **TRANSITE ROOFING**

### 1.0 SCOPE

The intention of this specification is to outline the procedures for the application of Energy Seal Coatings reflective roof coatings for the purpose of coating **TRANSITE ROOFING** surfaces. These suggested specifications describe materials, methods and conditions necessary for the proper application of Energy Seal Coatings. Actual application requirements are the responsibility of the installer.

### 2.0 MATERIALS

All Materials used shall be manufactured by and or approved by Advanced Coating Systems, Inc. Please refer to our product data sheets for technical specifications:

#### 2.1 Elastomeric Coating System

<b>ACU-SHIELD</b>	Acrylic, elastomeric roof coating.
<b>ACU-CAULK:BG</b>	Acrylic, elastomeric brush grade caulk.
<b>ACU-CAULK:FG</b>	Fibered, acrylic, reinforced, elastomeric flashing grade caulk.
<b>ACU-RUST PRIME</b>	Durable primer for rusted metal surfaces.
<b>ACU-TAC</b>	Bonding agent.
<b>ACU-FABRIC</b>	Spunbound polyester reinforcing scrim.
<b>ACU-GLOSS</b>	Clear acrylic finish.

#### 2.2 Delivery and storage

2.3 Materials shall be delivered in their original, tightly sealed containers or unopened packages, all clearly labeled with the manufacturer's name, file number, and lot numbers.

2.4 Materials shall be stored out of the weather in their original tightly sealed containers or unopened containers as recommended by the manufacturer. Do not allow liquid coating to freeze.

### 3.0 SURFACE PREPARATION

3.1 Preparation shall include all requirements specified by Advanced Coating Systems, Inc. to ensure proper adhesion of the Energy Seal Coatings products to the existing substrate.

3.2 Preparation shall include but not limited to the following:

3.3 All unnecessary and non-functional equipment and debris shall be removed from the roof.

3.4 Substrate must be pressure-washed. A minimum working pressure of 3,000 psi shall be used to remove all dirt, dust, previous paints & coatings which are delaminating as well as waste products (oil, oil-based roof cements, solvents, grease, animal fats, etc). Corrugated asbestos panels are likely to contain a significant amount of ASBESTOS (CAS. 1332-21-4), which may be carcinogenic, it is the installers responsibility to check with state and local agencies regarding its proper disposal, as we as the proper protection for workers and the local environment as they may be exposed to asbestos. It is recommended to use TSP (Tri Sodium Phosphate) or a similar cleaning solution when pressure washing the **TRANSITE** surface. Thoroughly rinse roof surface to make sure there is no residue left from the cleaning agent.

3.5 HVAC condensate drains shall be permanently routed to roof drains or off roof so as to not adversely affect roof coating system.

- 3.6 All mechanical fasteners shall be checked for integrity; re-tighten or replace as necessary. Stripped out fasteners shall be replaced using a larger diameter fastener.
- 3.7 Apply ACU-CAULK:FG or ACU-CAULK:BG over all fastener heads, insuring each fastener head is completely sealed without any voids, gaps or holes.
- 3.8 **TRANSITE** panels deteriorated to the point that their structural integrity is compromised shall be replaced.
- 3.9 Check all seams to make sure they are tight and flush. Excessive gaps or deflections between panels shall more than 1/4 inch will have to be sealed with ACU-CAULK:FG (see 3.10 - 2) or ACU-TAC & ACU-FABRIC (see 3.10 - 3)
- 3.10 Reinforce all horizontal (end-laps) and vertical (side-laps) along with roof terminations and flashing, around drains, scuppers and skylights, the base of all vents and around any other penetration with one of the following:
1. - Apply an 8" wide coat of ACU-CAULK:FG to the perimeter of the penetration. Place a 6" wide piece of ACU-FABRIC onto the wet ACU-CAULK:FG. Feathered the ACU-CAULK:FG out 2 inches Passed The ACU-FABRIC.
  2. - Apply a 6" wide coat of ACU-CAULK:BG to the perimeter of the penetration to a thickness of 40 - 60 mils.
  3. - Apply a coat of ACU-TAC 8" wide. While the ACU-TAC is still wet lay a 6" wide piece of ACU-FABRIC onto the wet ACU-TAC. Smooth the ACU-FABRIC out; making sure to eliminate air bubbles, fishmouths, puckers, folds or any other void. Apply another coat of ACU-TAC on top of the ACU-FABRIC. Make sure the ACU-TAC has completely saturated the ACU-FABRIC.
- 3.11 When calculating roof area add 35% - 50% of the floor area of the building to compensate for the pitch of the roof and the profile of the metal roofing pane or measure one roof panel using a tape measure or string to calculate the actual surface area of the roof panel.

#### 4.0 COATING APPLICATION

- 4.1 Examine substrate to receive roof coating. Do not proceed with installation of Energy Seal Coatings until unsatisfactory conditions have been corrected in a manner acceptable to the manufacturer.
- 4.2 Treatment of Residual Asphalt: Installer shall make every effort to remove all loosely adhered asphaltic roofing elements. Removal efforts must include the use of pressure-washers, scrapers, wire brushes, wire-wheels, or other similar tools. Residual asphaltic areas are to be coated with ACU-PRIME ALL.
- 4.3 Use a wet film gauge to determine coating thickness every 500 sq.ft. The wet film thickness should be at least twice as thick as the desired dry film thickness per coat. For instance, one coat of ACU-SHIELD is to be applied at a thickness of 10 DRY mils. The wet film thickness should be 20 mils.
- 4.4 Entire roof shall be primed with ACU-PRIME ALL at a rate of 200 square feet per gallon. ACU-PRIME ALL must be allowed to cure for 24 hours.
- 4.5 ACU-RUST PRIME must be allowed to cure for 24 – 48 hours depending on humidity and temperature. The roof is to be inspected for defects, flaws or holidays and repaired if necessary.
- 4.6 Apply ACU-SHIELD elastomeric coating by airless spray equipment, using a multi-pass spray technique to ensure even application to all sides of **TRANSITE** panel corrugations. Make a conscious effort to apply coating into crimped or presealed seams that have not been detailed. Use a wet film gauge often to measure film thickness. Wet film thickness should be twice as thick as the desired dry film thickness.
- 4.7 Apply first coat of ACU-SHIELD: First coat shall be applied perpendicular to the ribs of the **TRANSITE** roofing. Dry film thickness shall be approximately 10 mils.
- 4.8 Apply second coat of ACU-SHIELD: Second coat shall be applied parallel to the ribs of the **TRANSITE** roofing. Dry film thickness shall be approximately 10 mils.

- 4.9 Apply third coat of ACU-SHIELD: Third coat shall be applied perpendicular to the ribs of the transite roofing. Dry film thickness shall be approximately 10 mils.
- 4.10 Apply ACU-GLOSS clear acrylic coating is to be applied only after the ACU-SHIELD has thoroughly cured and dried for at least 24 hours.
- 4.11 Each coat must be allowed to cure for 24 - 48 hours depending on humidity and temperature. The roof is to be inspected for defects, flaws or holidays and repaired if necessary before a subsequent coat is applied.

## 5.0 APPLICATION RATES

- 5.1 **Standard** 10-year warranty: Detail as per 3.10. Apply ACU-PRIME ALL (see 4.4) Apply two coats of ACU-SHIELD (see 4.7 - 4.8) at a rate of 1.0 gal./100 sq.ft., per coat. Minimum dry film thickness 20 mils, excluding seam, flashing, joints and other detail areas.
- 5.2 **Extended** 12-year warranty: Detail as per 3.10. Apply ACU-PRIME ALL (see 4.4) Apply two coats of ACU-SHIELD (see 4.7 - 4.8) at a rate of 1.0 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-SHIELD at a rate of 1.0 gal./ 200 sq.ft. (see 4.10). Minimum dry film thickness 20 - 23 mils, excluding seam, flashing, joints and other detail areas.
- 5.3 **Elite** 15-year warranty: Detail as per 3.10 Apply ACU-PRIME ALL(see 4.4) Apply third coats of ACU-SHIELD (see 4.7 - 4.8) at a rate of 1.0 gal./100 sq.ft., per coat. Apply one coat of ACU-GLOSS on top of the ACU-SHIELD at a rate of 1.0 gal./ 200 sq.ft. (see 4.10). Minimum dry film thickness 30 - 33 mils, excluding seam, flashing, joints and other detail areas.

## 6.0 RESTRICTIONS / LIMITATIONS

- 6.1 This system is to be used only in conjunction with commonly accepted roofing standards but not limited to the following:
- 6.2 No application of materials shall commence during inclement weather or when precipitation is imminent. **No thinning of materials is permitted.**
- 6.3 No materials are to be applied to wet, dirty, or frozen surfaces.
- 6.4 No materials are to be applied at temperatures below 40° F.
- 6.5 Do not apply when dew point is within 5°F of of the surface temperature or if freezing temperatures (32°F or lower) are forecasted for the following 24 hours after application of coating products.
- 6.6 No materials are to be applied at ambient air temperatures above 100° F.
- 6.7 No materials are to be applied at relative humidity levels above 88%.
- 6.8 Do not spray apply if the wind velocity exceeds 10 mph without taking precautions to eliminate over spray.
- 6.9 Take all necessary precautions to protect unrelated surfaces from coating over spray or spillage
- 6.7 In conjunction with the final inspection, all debris, containers, materials and equipment are to be properly removed from the job site. Grounds are to be cleaned undamaged and acceptable to the owner.
- 6.8 Reflectivity of coatings may be reduced if roof surface is not cleaned on a regularly scheduled basis.
- 6.9 Ponding water areas must be repaired prior to any coating application to allow water to drain off the roof.

**CAUTION:** Do not apply within two hours of sunset, rain, fog or freezing temperatures. Energy Seal Coatings must be completely dry before exposing to water or foot traffic. Keep Energy Seal Coatings containers covered when not in use. Dispose of all containers in accordance with state and local environmental regulations. Keep away from children. If ingested, DO NOT induce vomiting. Call Physician immediately.

Our suggested installation specifications are based on information from laboratory and field testing which we believe to be reliable and correct; however, accuracy and completeness of said tests are not guaranteed and not to be construed as a warranty, either expressed or implied. Since the use of the material is beyond manufacturer's control, buyer assumes all risk whatsoever as to their use or results obtained. We guarantee our products to conform to Advanced Coating Systems, Inc. quality control. Advanced Coating Systems, Inc. warrants only the standard quality of material. Manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proved to be defective.

