

PRODUCT DATA BULLETIN II

ALUMINUM ROOF SHIELD

DESCRIPTION AND PURPOSE

SWEPCO Aluminum Roof Shield is a premium quality reflective surfacing manufactured from "Heart of Texas" Asphalt and high quality aluminum metallic pigments. It is designed to provide an energy efficient reflective coating that protects, beautifies and preserves old and new roofs, as well as hundreds of other surfaces that require protection from heat, solar radiation, rust and corrosion. It is used both alone and with other SWEPCO Roofing Products in a number of applications for complete protection of both new and existing roofs. Consult the appropriate application literature for more information.

OUTSTANDING FEATURES:

FORMS A HIGHLY REFLECTIVE CONTINUOUS SHIELD OF ALUMINUM

When SWEPCO Aluminum Roof Shield is applied, millions of tiny aluminum flakes rise to the surface to create a continuous reflective shield of pure aluminum. This shield prolongs the roof's life and reduces maintenance costs and energy consumption.

HELPS PROLONG ROOF LIFE; REDUCES MAINTENANCE NEEDS

This reflective shield of aluminum reflects up to 55% of the sun's rays; that's five times more reflective than typical graveled roofs and ten times more reflective than typical black roofs. Ultra-violet radiation, the major cause of aging and deterioration in asphalt roofs, is one type of

radiation reflected. Although SWEPCO Aluminum Roof Shield does not waterproof, it keeps the roof waterproof longer by reflecting this damaging ultra-violet radiation. SWEPCO Aluminum Roof Shield also reflects a significant amount of the sun's heat producing infra-red radiation, keeping roofs cooler and prolonging their lives.

REDUCES ENERGY NEEDS FOR COOLING AND HEATING

By reflecting heat producing infra-red radiation and lowering surface temperatures, SWEPCO Aluminum Roof Shield can significantly reduce summertime cooling loads in air conditioned buildings and reduce interior temperatures of buildings that are not air conditioned. Buildings also benefit from SWEPCO Aluminum Roof Shield in winter. Because it dissipates heat more slowly than other types of roof surfaces, Aluminum Roof Shield can minimize winter heat loss.

FINEST RAW MATERIALS INSURE A DURABLE SURFACE

SWEPCO Aluminum Roof Shield is made from the finest ingredients. Specially selected and refined "Heart of Texas" Asphalt, a superior roofing asphalt, is combined with the finest aluminum pigments to produce a continuous shield of aluminum that resists solar radiation, salt water, moisture, rust and a wide variety of industrial pollutants.

DESIGNED TO PROTECT A WIDE VARIETY OF SURFACES

SWEPCO Aluminum Roof Shield is compatible with a wide variety of industrial and commercial roofing materials. It provides effective protection for both old



and new asphalt roofs and its corrosion resistance is especially effective over bare metal roofs. To add to its versatility, SWEPCO Aluminum Roof Shield is available in silver and metallic green.

The superior protection afforded by SWEPCO Aluminum Roof Shield and its effects on energy consumption make it a cost saving coating for a wide variety of industrial, commercial and agricultural structures and surfaces.

EASY TO APPLY

SWEPCO Aluminum Roof Shield is applied straight from the container using a soft bristle brush, roller, squeegee or airless spray equipment. No thinning or heating is required, just thorough mixing.

GENERAL DATA:

TYPICAL PHYSICAL PROPERTIES

Viscosity, Stormer, @77°F (25°C), KU (ASTM D-562)	45-60
Specific Gravity, @60°F (15.5°C) (ASTM D-70)	1.03
Unit Weight, lb/gal (ASTM D-70)	8.6
Unit Weight, kg/liter (ASTM D-70)	1.03
Drying Time, to Touch, hours	1-2
Drying Time, Through, hours	24
Flash Point, T.O.C., °F (°C), min (ASTM D-3143)	105 (40.5)
Wet Film Thickness, 1 gal/100 ft ² , mil (Calculation)	16.00
Wet Film Thickness, 1 liter/m ² , mm (Calculation)	1.00
Dry Film Thickness, 1 gal/100 ft ² , mil (Calculation)	8.8
Dry Film Thickness, 1 liter/m ² , mm (Calculation)	0.55
Color	Silver
Odor	Petroleum Naptha

TYPICAL PERFORMANCE PROPERTIES

Workability (ASTM D-2823, 6.2)	Permits application by brush, roller or spray
Behavior, @140°F (60°C) (ASTM D-2822, 6.3)	No blistering, sagging or slide greater than ¼ in. (6 mm)
Pliability, @32°F (0°C) (ASTM D-2822, 6.4)	No cracking or separation
Adhesion to Dry Surfaces (ASTM D-3409)	Excellent
Reflectance, Silver, 45°F	42-56
Reflectance, Green, 45°F	32-44
Accelerated Weathering, hours (ASTM G-53)	3,000*
Film Appearance	Some Discoloration
Peeling and Chipping	None
Erosion	Slight
Water Penetration	NIL
Chalking	Slight
Accelerated Weathering, hours (ASTM G-53)	1,000
Film Appearance	Some Discoloration
Peeling and Chipping	None
Erosion	Slight
Water Penetration	None
Chalking	None
Storage Stability	1 Year

TYPICAL CHEMICAL PROPERTIES

Non Volatiles, % wt (ASTM D-2824, 8.2)	50
Volatiles, % wt (ASTM D-2824, 8.2)	50
Asphalt Portion Soluble in CS ₂ , % wt (ASTM D-4)	99.9
Water Content, % wt (ASTM D-95)	NIL
Aluminum Paste, % wt (ASTM D-2824, 8.4)	34.81

Metallic Aluminum, % wt (ASTM D-2824, 8.4)	22.28
Resistance to Mild Acid or Alkali	Causes some discoloration
Resistance to Water	Good
Resistance to Petroleum Solvents	Poor, causes softening and discoloration
Asphalt and Solvents, % wt (ASTM D-4)	62
Pigments, Stabilizers and Additives, % wt (ASTM D-4)	38

*NOTE: This is a roughly equivalent to eight years of exposure to ultra-violet radiation, heat and moisture generally encountered in field service.

APPLICABLE SPECIFICATIONS

Shield: ASTM D-2824, Type I (Silver Only)
 Pigment: ASTM D-962, Type 2, Class A
 U. S. Federal Specification TT-P-320c, Type II, Class 2 (Silver Only)

APPLICATION INFORMATION:

IMPORTANT: SWEPCO Aluminum Roof Shield is a premium quality aluminum coating for roofs, designed to increase reflectivity and prolong the life of the roof to which is applied. It is not a waterproofing material. It is recommended for use over both old and new smooth surface asphalt roofs; gravel, granule or other aggregate covered asphalt roofs; and exposed metal roofs. In addition, it performs well in a wide variety of other application where reflectivity is desired. Color and reflectivity can vary depending on the surface to which it is applied.

PREPARATION: The roof surface should be sound and should drain water freely. Because standing water accelerates deterioration of all asphalt roofing products, every effort should be made to isolate and correct the causes of any standing water or ponding on the roof. A minimum slope of ¼ in. per foot (2%) is recommended. When this is not possible, SWEPCO Products can still be applied and will provide temporary protection for such areas. However, it must be understood that performance of SWEPCO Products cannot be guaranteed in any area of the roof subject to standing water. If the roof is not waterproof, it is advisable to perform necessary roof maintenance with Heavy Duty or Flex•Shield Patching Compound, Patching Fabric, Heavy Duty or Flex•Shield Primer and/or Heavy Duty or Flex•Shield Roof Coating and Heavy Duty PolyMaster prior to application of Aluminum Roof Shield. (See instructions for these related products.) The surface should be swept free of all dust, dirt, debris and loose gravel. Metal surfaces should be wire brushed to remove rust and corrosion.

APPLICATION: SWEPCO Aluminum Roof Shield is applied straight from the container with standard paint brushes, soft bristled roofing brushes, paint rollers or airless spray equipment at the

recommended coverage rates below. It requires no heating or thinning. It should, however, be stirred thoroughly prior to application and periodically during prolonged application. (For specific information concerning spray application contact Southwestern Petroleum Corporation.)

APPLICATION PRECAUTIONS: Do not apply to wet or damp surfaces. Avoid thick build-ups or puddles during application as this tends to retard brilliance and can lead to shrinkage cracking. Application in rainy, foggy, damp or heavily overcast weather with relative humidities of 80% or higher should be avoided. Application in cold temperatures of 60°F (15°C) or lower should also be avoided if possible. Application should be avoided if rain or any of the above mentioned weather conditions are expected within 24 hours after application. All of these conditions tend to dull the brilliance of the coating because they inhibit rapid and complete leafing of the aluminum pigment. Do not apply to solvent base roof coatings, such as Heavy Duty Roof Coating, or hot applied asphaltic coatings until they have been allowed to cure for a minimum of 60 to 90 days. Do not apply to emulsion type roof coatings, such as SWEPCO Flex•Shield Roof Coating, until the coating has been allowed to cure a minimum of 14 days.

MINIMUM COVERAGE RATES:

Smooth Surface Asphalt	0.33 gal. per 100 sq. ft. (0.13 liter/m ²)
Gravel, Granule or Other Aggregate Covered Asphalt ...	0.67 gal. per 100 sq. ft. (0.27 liter/m ²)
Exposed Metal	0.30 gal. per 100 sq. ft. (0.12 liter/m ²)

NOTE: These coverage rates are our minimum coverage rates. do not under apply the product as this can adversely affect product performance and will negate any guarantee to which the product may be subject.

APPLICATION INFORMATION

(Continued)

CURING: SWEPCO Aluminum Roof Shield cures in 12 to 24 hours, depending on temperature and humidity. It reaches optimum brilliance after a few days of sunshine and warm weather.

CLEAN-UP: SWEPCO Aluminum Roof Shield can be cleaned from tools and other areas with kerosene or mineral spirits.

ADDITIONAL INFORMATION:

For additional information or recommendations, write Southwestern Petroleum Corporation, P.O. Box 961005, Fort Worth, Texas 76161-0005; Southwestern Petroleum Canada Ltd., 87 West Drive, Brampton, Ontario, Canada L6T 2J6; or N.V. Southwestern Petroleum Europe S.A., P.O. Box No. 3, B-2390 Oostmalle, Belgium.

SAFETY PRECAUTIONS

FLAMMABLE - HARMFUL OR FATAL IF SWALLOWED - IRRITANT

Contains: Naptha, Xylene & Other Petroleum Distillates

Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Wear protective goggles, gloves and clothing. Avoid prolonged breathing of vapors. Use with adequate ventilation or approved respirators in confined areas or when spray applying. Respirators should be inspected frequently to prevent accumulation of airborne solvent particles from saturating the respirator and presenting a health hazard. Do not take internally. Store and use away from heat, open flame or spark sources. Close container tightly after each use. Do not transfer to unlabeled or breakable containers. Use only for purposes intended. Keep out of reach of children.

EFFECTS OF OVEREXPOSURE:

Contact with eyes or prolonged or repeated contact with skin can cause irritation and inflammation. Prolonged breathing of vapors can cause respiratory difficulty, dizziness, headache, nausea, irritation of nose or throat, drowsiness, fatigue, pneumonitis, pulmonary edema or central nervous system depression. Ingestion can cause symptoms similar to inhalation; aspiration into lungs can cause serious injury or death.

FIRST AID PROCEDURES: Eye

Contact - Flush with water for 15 minutes. If pain or redness persists, seek medical attention immediately. Skin Contact - Wash with soap and water after wiping off excess material. If irritation persists, seek medical attention. Inhalation - Remove to fresh air. If breathing difficulty persists, give oxygen or resuscitate and SEEK MEDICAL ATTENTION IMMEDIATELY. Ingestion - Do NOT induce vomiting. If vomiting occurs, keep head below hips to prevent aspiration. SEEK MEDICAL ATTENTION IMMEDIATELY.

PHYSICAL EMERGENCY PROCEDURES:

If ignited, extinguish with CO₂ or Class B dry chemicals. Use a Class D agent or dry, inert granular material if a powder fire exists or Class B agents appear to accelerate the fire. Do not use water or halogenated extinguishing agents. Material contains flake aluminum; water or halogenated materials can create an explosion hazard. Fire may progress from a solvent to a powder fire. Water or foam may cause frothing. Water may be used to keep containers cool or flush spills away from area of involvement.

Consult Material Safety Data Sheet (MSDS) for this product or call Southwestern Petroleum Corporation at (817) 332-2336 for further health and safety information.

**SOUTHWESTERN
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