

# STAR SEAL®

## PRODUCT BULLETIN

### ASPHALT PAVEMENT SEALER

#### DESCRIPTION

STAR-SEAL® is a heavy-duty coal tar sealer that is specifically designed to protect and beautify bituminous pavements. Composed of high temperature refined coal tar pitch, selected mineral fillers and surfactants, STAR-SEAL® forms a tough, durable and flexible coating that protects asphalt pavements from the damaging elements of weather, water, salts, gas and other petrochemicals. STAR-SEAL® provides an attractive, easy-to-clean, like-new surface.

#### CHARACTERISTICS

Asphalt is easily attacked and degraded by the sun's ultraviolet rays. The degradation process of asphalt begins as soon as the new pavement is installed and the surface oils decompose and dissipate. The process continues to attack asphalt in the deeper layers of the pavement. As a result, the aggregates break loose and cracks develop.

Water penetrates through the cracks and damages the pavement in subsequent freeze-thaw cycles. "Accumulation of moisture in the pavement structure is probably the greatest single cause of pavement distress" according to the Asphalt Institute.

Oil, gasoline, grease and automobile fluids soften asphalt giving rise to soft patches and holes in the pavement. The logical solution for the protection of asphalt surfaces is the use of a barrier coat that will not be attacked by the damaging elements of weather and chemicals. Refined Coal Tar Pitch, composed of saturated closed-ring poly-nuclear molecules, meets such criteria; and therefore it is used in the form of a clay emulsion for the protection and beautification of asphalt surfaces.

STAR-SEAL®, a refined coal tar pitch emulsion sealer, seals out the damaging elements of weather and chemicals and keeps the vital oils and plasticizers locked in the pavement to keep them flexible and functional.

#### RECOMMENDED USES

On all asphalt surfaces, subject to moderate to heavy traffic and / or frequent abuse by harsh chemicals, gasoline, oil, grease, etc.. Such as Airports, Runways and Taxiways; Commercial and Industrial Parking Lots; Fast--Food Restaurants; Gas Stations; Recreational Areas; Residential Driveways.

## PHYSICAL PROPERTIES AND CONSTANTS

PROPERTIES& CONSTANTS	STAR-SEAL®	RP-355e
Solids, % by weight	50 (+ / -) 1	47-53
Ash. % of Solids by wt.	37 (+ / -) 1	30-40
Solubility of Non-Volatiles in Carbon Disulfide	30 (+ / -) .05	20 min.
Specific Gravity 25/25 C	1.22 (+ / -) .02	1.2 min.
Drying Time, Hrs.	7.0	8.0 max.
Appearance, wet	Dark Brown, semi-liquid	
Color upon drying	Slate Black	

## SPECIFICATIONS AND STANDARDS

STAR-SEAL® meets and/or exceeds ... Federal Government Specifications RP-355e (GSA-FSS), June 19, 1987.

U.S. Air Force and F.A.A. State Specifications using coal tar emulsions for government projects and bridge decks. American Society for Testing and Materials (ASTM) D-3320-74T and D-490, COKE oven tar specification.

## APPLICATION

STAR-SEAL® must be applied to structurally sound pavements by experienced applicators. Asphalt pavement should be protected by two coats of STAR-SEAL®, however, the quantities and coverage rates must conform to manufacturer's detailed specifications. Average coverage rates are 0.18 to .20 undiluted gallons per square yard. STAR MACRO-FLEX® latex additive and silica sand may be added for increased traction and durability.

## RECOMMENDED SYSTEMS

Usage Area	Coats	STAR SEAL® Gals.	WATER Gals.	SAND Lbs..	MACRO-FLEX® Gals.	COVERAGE RATE Mix Gals./Sq. Yd.
<b>LOW TRAFFIC</b>						
Home Driveways, parking stalls	1st	100	30-40	200-300	0-3	0.15-0.20
walkways, cart and bicycle paths, etc.	2nd	100	25-40	0-300	0-3	0.10-0.15
<b>MODERATE TRAFFIC</b>						
Driveways, parking lots, airfield and highway shoulders, gas station aprons, etc.	1st	100	30-50	300-500	0-4	0.15-0.20
	2nd	100	30-50	0-500	0-4	0.10-0.15
<b>HEAVY TRAFFIC</b>						
Industrial & commercial parking lots, airfield	1st	100	30-60	400-600	0-5	0.15-0.20
	2nd	100	30-60	400-600	0-5	0.15-0.20
	3rd	100	30-40	0-500	0-4	0.10-0.1

taxiways, service stations,  
etc.

**Prime Coat** - For old, oxidized pavements, a primer coat is recommended. The suggested materials are noted below;

- a. STAR-SEAL®, diluted with clean potable water in 1:3 volume ratio (sealer: water) applied at 0.04 to 0.06 Gal. (undiluted sealer) / Square Yard.
- b. STAR ONE STEP, diluted with clean potable water in 1:2 volume ratio (STAR ONE STEP: Water), applied at 0.05-0.08 gal. (mixed) / Square Yard.

### **CURING TIME**

Will vary according to temperature and relative humidity at the time of application. Under ideal conditions (77 F and 50% R.H.) allow at least:

- 4 - 6 hours between coats.
- 24 hours after the application of the last coat, before opening to vehicular traffic.

### **WEATHER LIMITATIONS**

Surface and air temperature should be a minimum 50 F and rising.

Do not apply on rainy, foggy, or extremely humid days, or if rain is in the forecast within 24 hours.

Dampen the pavement with a fine mist of water if the surface temperature is over 85 F, to facilitate even spreading. Do not allow water to puddle on the surface.

### **PACKAGING**

Bulk, 55-gallon drums, 5-gallon pails.

### **WARNINGS**

Apply only to unsealed asphalt or areas previously sealed with a coal tar emulsion sealer.

Not recommended for steeply inclined driveways as surface may become slippery when wet.

**Contains refined coal tar. May cause skin irritation. Avoid prolonged breathing of vapor. Keep away from eyes and mouth. If material gets into eyes, flush with water immediately and then consult a physician. If you should swallow material call emergency immediately. Consult Material Safety Data Sheet for details.**

Keep container closed when not in use and dispose of container properly according to your local state and federal regulations.

**PROTECT FROM FREEZING.**

**KEEP OUT OF REACH OF CHILDREN.**

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