

Amerthane® 490

Elastomeric polyurea hybrid

Product Data / Application Instructions

- 100% solids
- Tough, flexible and tear resistant
- Excellent abrasion and impact resistant
- Fast dry, cures through wide temperature range
- High build
- Good chemical and corrosion resistance
- Economical potable water tank lining

Typical Uses

Tanklining – fresh and salt water.

Power industry – grizzly hoppers, dust and fly ash handling, hoppers, bins, chutes.

Marine – cargo holds, decks, ballast tanks.

Mining – conveyors, grinding and size reduction equipment, storage silos.

Wastewater treatment – concrete basins, clarifiers, pond liners, gasproofing of digestors.

Products

AMER4902	Gray
AMER4903	Off White
AMER4905	Blue
AMER49061	Safety Orange
AMER49072	Red Oxide
AMER4909	Black
AMER490B	Cure

Outstanding Characteristics

Amerthane 490 provides long-term protection for steel and concrete used to handle, convey, transport or store abrasive or corrosive materials. Amerthane 490, as a single-coat, has excellent carrier properties and is flexible; resists cracking from thermal expansion, contraction and structural motion.

Qualifications

ANSI/NSF 61

Physical Data

Finish	Semigloss	
Color	Off-white*	
Components	2	
Curing mechanism	Chemical reaction between components	
Volume solids (calculated)	100%	
Dry film thickness per coat	20 to 100 mils (500 to 2,500 microns)	
Coats	1-2	
<i>Theoretical coverage</i>	<i>ft²/gal</i>	<i>m²/L</i>
<i>1 mil (25 microns)</i>	<i>1604</i>	<i>39.4</i>
<i>20 mils (500 microns)</i>	<i>80.2</i>	<i>2.0</i>
VOC (mixed)	lb/gal	g/L
	0.0	0.0
Flash point (SETA)	°F	°C
cure	>200	>93
resin	>200	>93
Amercoat 12	2	-17

Application Data

Applied over	Primed or prepared steel, or primed concrete.
Primer	Amerlock Sealer or Amercoat 370
Primer for Concrete	Amerlock 400
Method	Plural component airless spray
Mixing ratio (by volume)	2 parts resin to 1 part cure
Gel time (seconds)	40 to 80 @ 110°F (43°C)
Environmental Conditions	°F °C
air and surface	20 to 110 -7 to 43
Relative humidity	85% maximum
Surface temperature must be at least 5°F (3°C) above dew point to prevent condensation. At freezing temperatures, surface must be free of ice.	
Cleaner	Amercoat 12

* Amerthane 490 will yellow on exterior exposure. Discoloration does not affect performance. Amerthane 490 can be topcoated with standard PPG PMC topcoats, such as Amershield, where gloss and color retention is required.

Drying time (ASTM D1640) @ 30 mils DFT		°F/°C	
	90/33	70/21	50/10
touch (minutes)	5	12	30
hard (hours)	2	4	6
Recoat time			
minimum (hours)	2	4	6
maximum (hours)**	16	24	24
Before service (days)			
severe abrasion	2	3	4
mild abrasion	1	2	3
water immersion	1	1	1

**Roughen surface if maximum recoat time is exceeded.

Chemical Resistance Guide

Environment	Splash and Spillage	Fumes and Weather	Immersion
Acidic	E	E	NR
Alkaline	E	E	NR
Salt solutions			
Acidic	E	E	NR
Neutral	E	E	NR
Alkaline	E	E	NR
Seawater	E	E	E
Fresh water	E	E	E
Solvents	E	E	NR
Petroleum products	E	E	NR

G=Good E=Excellent NR=Not recommended

This table is only a guide to show typical resistance of Amerthane 490.

Surface Preparation

Coating performance is proportional to the degree of surface preparation. All surfaces must be clean and dry before coating. Round off all rough welds and sharp edges, remove all weld spatter.

Refer to primer product data sheets and application instructions for surface preparation.

Refer to following for direct-to-metal application:

Steel – Abrasive blast to SSPC-SP10, SP5 or SP12 (WJ-4). Blast to achieve a 3 to 4 mils (75 to 100 microns) profile as determined with a Keane-Tator Surface Profile Comparator, Textex tape or similar device. Remove abrasive dust or residue. Apply Amerthane 490 as soon as possible to prevent rusting. Keep oil, grease, moisture and other organic matter off the surface before coating. Spot blast to remove any contamination, solvent wipe is not adequate.

Concrete – Clean concrete and masonry surfaces, abrasive blast (ASTM D 4259). Fill concrete voids with Amercoat® 114A. Prime as needed for recommended service.

Aged Amerthane 490 – Roughen; remove all contaminants.

Environmental Conditions

Air and surface temperature: 20° to 110°F (-7° to 43°C).

Relative humidity: 85% maximum. Surface temperature must be at least 5°F (3°C) above dew point to prevent condensation.

At freezing temperatures, surface must be free of ice.

Typical Mechanical Properties at 70°F

Shore D hardness (ASTM D2240)	65 ±5
Tensile strength (ASTM D412)	2800 psi
Elongation (ASTM D412)	25%
Elongation (ASTM D 522 Method B cylindrical mandrel)	
No cracking at 60 mils on a ¼ inch mandrel – 56% elongation	
Impact resistance (ASTM G14)	
direct	210 lbs.
Abrasion resistance (ASTM D4060)	
1 kg load/1000 cycles	
CS17 Wheel (weight loss)	53 mg

Application Data Summary

See Application Instructions for complete information on surface preparation, environmental conditions, application procedures and equipment. To obtain maximum performance, apply as recommended. Adhere to all safety precautions during storage, handling, application and drying periods.

Application Equipment

The following is a guide; suitable equipment from other manufacturers may be used. Changes in pressure and tip size may be needed for proper spray characteristics.

Plural component heated airless spray – Heated airless spray 2:1 plural component. Equipment and material temperatures that are generally used follows:

- 95 - 110°F using in-line heaters
- 5:1 or 10:1 Transfer Pumps
- 12" x 3/8" 24 element Static Mixer
- 50 feet of 3/8" Fluid Line
- Graco King 45:1 at 4000 psi
- Fluid tip with a 0.015- to 0.019-inch orifice

Power mixer – Jiffy mixer

Application Procedure

- Flush equipment with Amercoat 65 or Amerase cleaner before use.
- Mix resin component thoroughly, to a workable consistency.
- Apply a wet coat in even, parallel passes. Overlap each pass 50 percent to avoid bare areas, pinholes or holidays. Cross spray at right angles if necessary.
- Material temperature must be between 95 - 100°F.
- Ventilate with clean air during application, between coats and curing. Maintain air temperature to prevent condensation on coating surface.
- Check film thickness using a wet film thickness gauge. If film is less than specified, apply additional material.
- Clean all equipment with Amercoat 12 immediately after use.

Repair

- Remove all rust, loose paint, grease or other contaminant preferably by spot abrasive blast from damaged areas abraded to bare steel.
- Remove contaminant from too thin area and roughen surface if recoat time is exceeded. Apply Amerthane 490 as soon as possible after surface is cleaned to prevent contaminant on the surface.

Safety Precautions

Read product's material safety data sheet before use

CAUTION – Improper use and handling of this product can be hazardous to health.

Do not use this product without first taking all appropriate safety measures to prevent property damage and injuries. These measures may include, without limitation: implementation of proper ventilation, use of proper lamps, wearing of proper protective clothing and masks, tenting and proper separation of application areas. Consult your supervisor. Proper ventilation and protective measures must be provided during application and drying to keep spray mists and vapor concentrations within safe limits and to protect against toxic hazards. Necessary safety equipment must be used and ventilation requirements carefully observed, especially in confined or enclosed spaces, such as tank interiors and buildings.

This product is to be used by those knowledgeable about proper application methods. PPG makes no recommendation about the types of safety measures that may need to be adopted because these depend on application environment and space, of which PPG is unaware and over which it has no control.

If you do not fully understand these warnings and instructions or if you cannot strictly comply with them, do not use the product.

Note: Consult Code of Federal Regulations Title 29, Labor, parts 1910 and 1915 concerning occupational safety and health standards and regulations, as well as any other applicable federal, state and local regulations on safe practices in coating operations.

This product is for industrial use only. Not for residential use.

Shipping Data

Packaging units		
cure	1 x 53.4 gal in 55 gallon drum	
resin	2 x 53.4 gal in 55 gallon drum	
	lbs	kg
cure (per drum)	520.0	236.4
resin (per drum)	551.0	250.5
Shelf life when stored indoors at 70 to 95°F (21 to 35°C)		
resin	1 year from shipment when stored indoors at 50 to 100°F	
cure	6 months from shipment date. Must be stored indoors at 70 to 95°F.	

Numerical values are subject to normal manufacturing tolerances, color and testing variances. Allow for application losses and surface irregularities. See application instructions for complete information and safety precautions.

The mixed product is nonphotochemically reactive as defined by the South Coast Air Quality Management District's Rule 102 or equivalent regulations.