



Penntrowel™ SB/SBR Flooring Systems

SELECTION & SPECIFICATION DATA

Type	Slurry broadcast/slurry broadcast reinforced flooring system
Description	Penntrowel SB/SBR Flooring Systems are a versatile suite of flooring systems for use in mild to moderate chemical service applications. The SB Flooring Systems are available in 3 variations of resin systems: epoxy, high functional novolac epoxy and high functional vinyl ester.
Uses	<ul style="list-style-type: none">• Process area floors• Tank farms• Truck unloading pads• Floors• Pump pads• Tank foundations
Features	<ul style="list-style-type: none">• Resistant to most acids, alkalis and aliphatic solvents.• Versatile application method allows thicknesses to be achieved ranging from 0.040" to 0.375" (3/8") (1 mm to 9 mm)• Optional SBR variant incorporates 1 oz. mat reinforcement for resistance against substrate crack propagation• Easy and fast application by the slurry/broadcast method• Nonslip topcoat may be added over the final broadcast layer
Limitations	Not for use beyond its chemical resistance capabilities. Consult Armor with specific questions.

INSTALLATION GUIDANCE

Reference Specification	CES-283 Specification for Penntrowel SB/SBR Flooring Systems Installation
Installation Conditions	Materials and substrate should be acclimated to the air temperature prior to installation. The air temperature should be between 50°F (10°C) and 90°F (32°C) during installation and cure. Installation temperature requirements can be lowered with optional Cold Room Hardener with the epoxy systems and the use of increased catalyst level with the vinyl ester system.
Mixing/Use	<p>Apply primer per instructions on applicable primer technical data sheet. If the optional SBR System is specified, embed 1 oz. glass mat into wet primer and smooth evenly.</p> <p>Penntrowel Epoxy SB: mix ratio of Resin:Hardener is 1:0:0.08 by weight. Penntrowel Novolac Epoxy SB mix ratio of Resin:Hardener is 1.0:0.51 by weight. Penntrowel Vinyl Ester SB mix ratio is 1-gallon Resin to 2-3 oz of CHP Hardener.</p> <p>All systems: Empty Part A resin and Part B hardener into a clean mixing vessel and mix thoroughly using a slow speed drill with suitable blade mixer such as a Jiffler. Mix for 2 minutes minimum to insure full blending. Flood mixed resin/hardener onto dried primed substrate and spread evenly with a roller. Broadcast selected sand to excess and allow first flood coat to dry. Sweep away excess sand and apply subsequent flood coats and additional broadcast steps to achieve final build thickness. Apply final topcoat to seal the Floor System. Broadcast lightly into topcoat to achieve a non-slip texture if desired.</p>
Work Life	45-60 minutes at 70°F (21°C)
Cleanup	Xylene or MEK

CURE TIME

Temperature	Initial Set	Full Cure
70°F (21°C)	Foot traffic 8 hours Light vehicle traffic 18 hours	24 hours for vinyl ester, 72 hours for the epoxies

SAFETY

Safety	Mixes and applications of this product present a number of hazards. Read and follow the hazard information, precautions and first aid directions on the individual product labels and safety data sheets before using.
Ventilation	Provide thorough air circulation during and after application until the material has cured when used in enclosed areas.



Penntrowel™ SB/SBR Surfer

PACKAGING & ESTIMATING

Product	Code	Packaging
Penntrowel Epoxy SB		
Penntrowel Epoxy Resin Gray	19679	50 lb (22.7 kg) 5-gal pail
Penntrowel Hardener	19678	40 lb (18.1 kg) 5-gal pail
Penntrowel High Functional Novolac SB		
6710 Resin	19592	40 lb (18 kg) 4-gal pail
6711 Hardener	19595	21 lb (9.5 kg) 2.5-gal can
Penntrowel High Functional Vinyl Ester SB		
Penntrowel Vinyl Ester Resin Gray	19637	43 lb (19.5 kg) 5-gal pail
Penntrowel Vinyl Ester Resin Clear	29464	43 lb (19.5 kg) 5-gal pail
CHP Hardener	21922	8.3 lb (3.8 kg) 1-gal can

Theoretical Coverage

A 540 lb (55-gallon) unit of Penntrowel Epoxy SB consists of 10 pails of resin and 1 pail of hardener and will cover 6890 sf (640 sm) at 12.8 mils (325 µm) thickness*.

A 61 lb (6.5-gallon) unit of Penntrowel Novolac SB consists of 1 pail of resin and 1 pail of hardener and will cover 815 sf (76 sm) at 12.8 mils (325 µm) thickness*.

A 43 lb (5-gallon) unit of catalyzed Penntrowel Vinyl Ester SB consists of 1 pail of resin and 10 oz. (1.5% by volume) of hardener and will cover 625 sf (58 sm) at 12.8 mils (325 µm) thickness*.

*Required mil thickness may vary depending on coarseness of broadcast aggregates. Consult specification CES-283.

Storage & Shelf Life

Maintain products in original packaging and sealed until ready for use. Estimated shelf life of components of epoxy components is 18-24 months when stored in a dry area at 70°F (21°C). Estimated shelf life of components of vinyl ester components is 6 months when stored in a dry area at 70°F (21°C). Actual shelf life may vary with storage conditions.

If there is any question with respect to the quality of the components check reactivity prior to use. For assistance consult with Armor.

TYPICAL PHYSICAL PROPERTIES

Property	Typical Value
Color	Gray, special colors on request
Wet density filled, typical	120 lb/ft³ (1,922 kg/m³)
Compressive strength, 7-day, ASTM C579	>10,000 psi (69 MPa)
Flexural strength, ASTM C580	>3,000 psi (20.7 MPa)
Bond to concrete, ASTM C321	Exceeds tensile strength of concrete
Water absorption, ASTM C413	<0.2%
Shrinkage, ASTM C531	<0.1%
Heat resistance, ASTM C884 modified, Epoxy SBR	150°F (65°C) continuous 165°F (74°C) intermittent
Heat resistance, ASTM C884 modified, High functional novolac epoxy SBR	170°F (76°C) continuous 190°F (88°C) intermittent
Heat resistance, ASTM C884 modified, High functional vinyl ester SBR	170°F (76°C) continuous 190°F (88°C) intermittent

Note: physical property values may vary depending on total build thickness

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