DURALTEX® 1805, 1807

Chemically Resistant Protective Floor Topping and Coating Systems

Description

DURALTEX 1805 is a two component, 100% solids epoxy novolac that offers excellent chemical resistance to aggressive chemicals such as 98% sulfuric acid, 37% hydrochloric acid and other industrial chemicals. DURALTEX 1805 is also used in trowel down or broadcast systems. **DURALTEX 1807** is the flake filled, high build version and is used for coating walls or floors. All DURALTEX products offer good abrasion and impact resistance and have been formulated to be user friendly, with low odor, long working life, and good application characteristics. By using specifically blended aggregates with DURALTEX 1805, very high early strengths and excellent impact and abrasion resistance can be achieved for demanding flooring applications.

Primary Applications

- Chemical process areas
- Loading docks
- Aisles
- Ramps
- Chemical drainage areas
- Waste water treatment facilities
- Industrial floors
- Food and beverage plants

Features/Benefits

- Long term service life
- Excellent chemical resistance
- Use in trowel down or broadcast systems
- Very high early strengths

Technical Information

Material Properties @ 75°F (24° C)

DURALTEX	1805	1807
Mixing Ratio (A:B) volume	2:1	2:1
Mixed Viscosity cps	1,000 to 1,800	3,000 to 5,000
Gel Time (100 grams) mins	30 to 40	30 to 40
Pot Life 3 gal (11.4 L) mins	15 to 20	15 to 20
Tensile Strength ASTM D 638		
psi	5,600 to 6,200	5,600 to 6,200
(MPa)	(34.5 to 37.9)	(34.5 to 37.9)
Elongation at Break %	2 to 8	2 to 6
Compressive Strength ASTM D 695		
psi	9,000 to 10,000	9,000 to 10,000
(MPa)	(62.1 to 68.9)	(62.1 to 68.9)
Hardness Shore D ASTM D 2240		
1 day	90 to 95	90 to 95
Compressive Strength psi (MPa)		
Graded Aggregate		
8:1 by wt.	12,000 to 13,000 (82.7 to 89.6)	n/a
Silica Sand 20/40 mesh		
3:1 by wt.	6,000 to 7,500 (41.4 to 51.7)	n/a
Compliance ASTM C 722	yes	yes

Appearance: Standard colors are light gray, dark gray, tile red, and clear. Custom and special colors are available and are subject to minimum quantity orders.

Values presented are typical and are not necessarily referenced to create specifications.

Packaging

DURALTEX 1805 and 1807 are packaged in 3 gal (11.4 L) units.

Shelf Life

2 years in original, unopened package.

Coverage

Floor/Wall Coating System	ft²/gal (m²/L)
Prime coat (clear) 1805	300 to 350 (7.36 to 8.59)
1st coat (1807)	70 to 90 (1.72 to 2.21)
2nd coat (1807)	70 to 90 (1.72 to 2.21)
Broadcast System	
1st coat 1805	70 to 90 (1.72 to 2.21)
Broadcast Aggregate	1 to 2 lb/ft²(.45 to .91 kg/m²)
Each added coat (1805)	70 to 90 ea (1.72 to 2.21 ea)
Broadcast Aggregate	1 to 2 lb/ft² (.45 to .91 kg/m²)
Seal coat (1805)	140 to 160 (3.79 to 3.93)

Trowel Down System	
Prime coat (clear) 1805	300 to 350 (7.36 to 8.59)
Trowel coat at 1/4" (6.4 mm) thickness (mortar)	
3 gals (11.4 L) silica sand 20/40 mesh &	
1 gal (3.8 L) mixed resin	18 to 20 (0.44 to 0.49)
4.5 gals (17.0 L) graded aggregate	
& 1 gal (3.8 L) mixed resin	24 to 26 (0.59 to 0.64)

Note: Coverage rates are approximate and depend on temperature, texture and on concrete porosity.

Directions for Use

Surface Preparation: Concrete must be structurally sound, dry, free of grease, oils, coatings, dust, curing compounds and other contaminants. Surface laitance must be removed. The preferred method of surface preparation is mechanical abrasion. For oil contaminated surfaces, using steam cleaning in conjunction with a strong emulsifying detergent may be considered. Rinse thoroughly with potable water. After cleaning, remove defective concrete, honeycombs, cavities, joint crack voids and other defects by routing to sound material. Smooth, precast and formed concrete surfaces must be cleaned, roughened and made absorptive by mechanical abrasion. Surface profile should be equal to CSP 2 - 5 in accordance with ICRI Guideline 310.2 at a minimum. If it is not possible to mechanically abrade, acid etch with a 15% Hydrochloric acid solution. After etching, pressure wash or flush the surface with copious amounts of water to neutralize the surface. Care must be taken to ensure that all salts and residue from the reaction have been removed. The pH of the surface should be checked as per ASTM D 4262 following acid etching. New concrete should be allowed to cure for a minimum of 28 days prior to applying DURALTEX. Remove any surface hardener or curing compound, by mechanical abrasion. After preparation, the cleaned surface should have a minimum surface tensile strength of 250 psi (1.7 MPa) when tested with an Elcometer or similar pull tester (ASTM D 4541).

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Before application of the coating, use the "Visqueen test" (ASTM D 4263) to evaluate the moisture level in the concrete. To repair small patches in old concrete, use a suitable epoxy mortar. For larger areas, use cementitious patching materials which are compatible with the DURALTEX. Consult Euclid Chemical Technical Support for appropriate patching materials. After patching, a light brush blast is recommended prior to coating. When coating steel, all oils, greases, dirt, old coatings or chemical contaminants must be removed prior to applying DURALTEX. All welds should be continuous and ground to remove all splatter, sharp edges, laps and other surface irregularities. For Intermittent Contact/Atmospheric Service, all steel surfaces should be blasted in accordance with SSPC-SP10 or NACE #2 to a "NEAR WHITE" metal finish using clean dry blasting media.

Mixing: All DURALTEX products use a common set of mixing instructions. Using a low speed drill motor and a "Jiffy" type mixer, mix the A & B components separately for approximately 1 minute. Combine two parts by volume of "A" with one part by volume of "B" and mix thoroughly. Scrape the bottom and sides of mixing container, at least once. Mix just enough material that can be used within the working life. Do not aerate the mix. A DURALTEX mortar can be prepared (1805 version only) by gradually adding clean dry aggregate to mixed DURALTEX in a mortar mixer. Mixing times are typically 3 to 5 minutes after all the aggregate is added. Depending on aggregate, the mix proportion can vary. When using silica sand (20/40 mesh) as the aggregate, mix 3 parts by volume of the sand to 1 part DURALTEX. If graded aggregate is the extender, up to 4.5 parts of aggregate by volume can be mixed with 1 part DURALTEX. Ensure that the aggregate has been thoroughly wet out. **Do not blend any aggregate with the flake filled version of DURALTEX 1807).**

Application Guidelines

Floor/wall Coating Application: Use DURALTEX 1805 CLEAR as the prime coat. While the prime coat is still tacky, apply DURALTEX 1807 with a brush, short nap roller, squeegee or spray. Allow to cure for 5 to 8 hours at 75°F (24°C). For most industrial applications, a second coat is required. **Broadcast Application:** Apply properly mixed DURALTEX 1805 by brush, short nap roller, squeegee or spray. Immediately broadcast clean, dry aggregate (typically silica sand 20/40 mesh) at approx. 1 to 2 lb/ft² (0.45 to 0.91 kg/m²) or until no wet spots appear. Allow to cure for 5 to 8 hours at 75°F (24°C). After the cure, sweep up excess aggregate. Build the thickness by repeating this procedure with a second application of DURALTEX 1805 and aggregate. After the second coat has cured, a seal coat of DURALTEX 1805 may be applied. **Trowel Down Application:** Apply DURALTEX 1805 CLEAR as the prime coat. DURALTEX mortar made from DURALTEX 1805 and an aggregate (see mixing instructions), is used in trowel down applications. While the prime coat is still wet, broadcast 0.25 lbs (0.11 kg) of silica sand/ft². Allow to cure 3 to 5 hours. Place the DURALTEX mortar and screed or trowel to desired floor thickness. Seal the edges and termination details. Allow to cure for 5 to 8 hours. As in the broadcast application, a seal coat may be applied.

Chemical Resistance Data: Applicable for individual chemicals only for exposure at room temperature to coatings applied at a minimum film thickness of 40 mils.

Acids				
Acetic	50%	4	10%	2
Chromic	10%	1	50%	1
Citric	10%	1	50%	1
Formic	25%	4	98%	4
Hydrochloric	10%	1	37%	1
Hydrofluoric	25%	4		
Lactic	85%	2		
Nitric	10%	2	45%	4
Phosphoric	10%	1	85%	2
Sulfuric	10%	1	75%	1
			98%	2

Miscellaneous	
Brake Fluid	1
Ethylene Glycol	1
Formaldehyde 37%	2
Gasoline	1
Propylene Glycol	1
Skydrol	1
Vegetable Oil	1
Solvents	
Ethyl Alcohol 95%	2
Ethyl Acetate	4
Methanol	4
Methyl Ethyl Ketone	4
Methylene Chloride	NR
Mineral Spirits	1
Toluene	2
Tricholoroethane	1
Xylene	2

Alkalies / Salts		
Ammonia	29%	1
Ammonium Sulfate	50%	1
Calcium Chloride		1
Diethanolamine		1
Ferric Chloride	50%	2D
Hydrogen Peroxide	35%	1D
Potassium Hydroxide	50%	1
Sodium Hydroxide	50%	1
Sodium Hypochlorite	10%	1D

Rating Key
1 = Long Term Exposure (30 days)
2 = Extended Exposure (7 days)
3 = Splash / Spill (72 hours)
4 = Incidental Contact (8 hours)
D = Discoloration may occur
NR = Not Recommended

Clean-Up

Clean tools and application equipment immediately after use with Methyl Ethyl Ketone or acetone. Clean spills or drips while still wet with same solvent. Cured DURALTEX will require mechanical abrasion for removal.

Precautions/Limitations

- Protect from moisture and freezing. Store at tempatures between 50°F to 90°F (10°F to 32°C).
- Application temperature should be 50°F to 90°F (10°C to 32°C).
- Do not apply to wet surfaces.
- Do not apply if humidity is greater than 90%, or if substrate temperature is not at least 5°F(-15°C). above the dew point of the work area.
- Do not thin this material. Concrete should be cured for 28 days.
- DURALTEX is a vapor barrier after cure.
- Variations in color may occur after extended UV exposure.
- Although epoxy coatings are chemically resistant, surface staining of the coating may occur after contact with some chemicals. Consider the use of a polyurethane topcoat such as EUCOTHANE for improved stain resistance.
- In all cases, consult the Material Safety Data Sheet before use.

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