Tamms

TECHNICAL DATA SHEET

DURALTEX®
1705, 1805, 1707, 1807

Chemically Resistant Protective Floor Topping and Coating Systems

1. **DESCRIPTION:** The DURALTEX family of protective binders or coatings are 100% solids, two component epoxy systems. They provide long term service life in moderate to aggressive chemical and physical environments. The 4 products in the DURALTEX line are:

   DURALTEX 1705 offers good chemical resistance to a broad range of solvents, salts, caustics and acids. DURALTEX 1705 is used in trowel down or broadcast applications.

   DURALTEX 1805 is an epoxy novolac and 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 1707 is the flake filled, high build version of DURALTEX 1705 and is used for coating walls or floors.

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   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 1705 or DURALTEX 1805, very high early strengths and excellent impact / abrasion resistance can be achieved for demanding flooring applications.

2. **USES:** DURALTEX products are used in chemical process areas, loading docks, aisles, ramps, and chemical drainage areas. They are also effective on industrial floors, in warehouses, secondary containment areas, waste water treatment facilities and food and beverage plants.

3. **COMPOSITION AND MATERIALS:** DURALTEX 1705 is a two component, 100% solids, epoxy-amine system. DURALTEX 1707 is a two component, 100% solids, flake filled epoxy-amine system. DURALTEX 1805 is a two component, 100% solids epoxy novolac system. DURALTEX 1807 is a two component, 100% solids, flake filled epoxy novolac system.

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

5. **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 abrasive blasting. For oil contaminated surfaces, using steam cleaning in conjunction with a strong emulsifying detergent may be considered. Rinse

Material Properties @75°F

DURALTEX		1705	1707	1805	1807
Mixing Ratio (A:B)	volume	2:1	2:1	2:1	2:1
Mixed Viscosity	cps	1,500-3,500	4,000-6,000	1,000-1,800	3,000-5,000
Gel Time (100 grams)	mins	25-35	25-35	30-40	30-40
Pot Life (3 gal unit)	mins	12-18	12-18	15-20	15-20
ASTM D638					
Tensile Strength	psi	5,000-5,500	5,000-5,500	5,600-6,200	5,600-6,200
Elongation at Break	pct	2-8	2-6	2-8	2-6
ASTM D695					
Compressive Strength	psi	9,000-10,000	9,000-10,000	9,000-10,000	9,000-10,000
ASTM D2240					
Hardness Shore D	1 day	90-95	90-95	90-95	90-95
Compressive Strength, psi					
Graded Aggregate	8:1 by wt.	12,000-13,000	n/a	12,000-13,000	n/a
Silica Sand 20/40 mesh	3:1 by wt.	6,000-7,500	n/a	6,000-7,500	n/a
Compliance					
ASTM C722		yes	yes	yes	yes

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

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 abrasive blasting or shot blasting. If it is not possible to abrasive or shot blast, 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 D4262 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 abrasive blasting. Following surface preparation, the cleaned surface should have a minimum surface tensile strength of 250 psi when tested with an Elcometer or similar pull tester (ASTM D4541). Before application of the coating, use the "Visqueen test" (ASTM D4263) 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 TAMMS Technical Service 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.

6. **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 by gradually adding clean dry aggregate to mixed DURALTEX 1705 or DURALTEX 1805. DURALTEX mortar is typically blended in a mortar mixer. Mixing times are typically 3-5 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 versions of DURALTEX (1707 and 1807).

7. **APPLICATION TECHNIQUES:** Ambient and surface temperature should be between 50-90°F, when applying DURALTEX. **A test patch of any DURALTEX system is strongly recommended**. Detailed installation guidelines are available upon request from the Tamms Technical Service Center. DURALTEX systems are typically applied in one of three methods: as a floor/wall coating, broadcast application or trowel down.
   Floor/Wall Coating Application: Use DURALTEX 1705 CLEAR or DURALTEX 1805 CLEAR as the prime coat for the corresponding system. Apply a prime coat of DURALTEX to the properly prepared surface at a coverage rate of 300-350 sq.ft./gal While the prime coat is still tacky, apply DURALTEX 1707 or DURALTEX 1807 with a brush, short nap roller, squeegee or spray. Apply at a rate of 70-90 square feet per gallon (20 mils). Allow to cure for 5-8 hours at 75°F. For most industrial applications, a second coat at 20 mils thickness is required for a total top coat thickness of 40 mils.
   Broadcast Application: DURALTEX 1705 or DURALTEX 1805 can be applied as part of a Broadcast system. Apply properly mixed DURALTEX 1705 or DURALTEX 1805 by brush, short nap roller, squeegee or spray at a coverage rate of 70-90 sq.ft./gal (20 mils wet film thickness). Immediately broadcast clean, dry aggregate (typically silica sand 20/40 mesh) at approx. 1-2 lbs./sq.ft., or until no wet spots appear. Allow to cure for 5-8 hours at 75°F. After the cure, sweep up excess aggregate. Build the thickness by repeating this procedure with a second 20 mil application of DURALTEX and aggregate. After the second coat has cured, a seal coat of DURALTEX 1705 or 1805 may be applied at a coverage rate of 140-160 sq.ft./gal. (10 mils wet). DURALTEX 1805 may be used as a seal coat over a DURALTEX 1705 to enhance the chemical resistance of the system.
   Trowel Down Application: Apply DURALTEX 1705 CLEAR or DURALTEX 1805 CLEAR as the prime coat for the corresponding system at a coverage rate of 300-350 sq.ft./gal. DURALTEX mortar, made from either DURALTEX 1705 or DURALTEX 1805 and an aggregate (see mixing instructions), is used in trowel down applications. While the prime coat is still wet, broadcast 0.25 pounds of silica sand per square foot. Allow to cure 3-5 hours. Place the DURALTEX mortar and screed or trowel to desired floor thickness. Seal the edges and termination details. Allow to cure for 5-8 hours. As in the broadcast application, a seal coat may be applied at a coverage rate of 140-160 sq.ft. per gallon (10 mils wet)**.**

8. **CONSTRUCTION DETAILS:** For floor terminations, wall/floor transition detail, trenches, etc., please refer to Construction Detail guidelines.

9. **COVERAGE:** Coverage rates are approximate and depend on temperature, texture and on concrete porosity.

Floor/Wall Coating System	
Prime coat (DURALTEX 1705 or 1805 CLEAR)	300-350 sq.ft./gal
1st coat (DURALTEX 1707 or 1807)	70-90 sq.ft./gal
2nd coat (DURALTEX 1707 or 1807)	70-90 sq.ft./gal
Broadcast System	
1st coat (DURALTEX 1705 or 1805)	70-90 sq.ft./gal
Broadcast Aggregate	1-2 lbs. / sq.ft.
Each added coat (DURALTEX 1705 or 1805)	70-90 sq.ft./gal ea
Broadcast Aggregate	1-2 lb./sq.ft.
Seal coat (DURALTEX 1705 or 1805)	140-160 sq.ft./gal
Trowel Down System	
Prime coat (DURALTEX 1705 or 1805)	300-350 sq.ft./gal
Trowel coat at 1/4″ thickness (DURALTEX mortar)	
3 gals silica sand 20/40 mesh & 1 gal mixed resin	18-20 sq.ft.
4.5 gals graded aggregate & 1 gal mixed resin	24-26 sq.ft.

10. **CLEAN-UP:** Clean tools and application equipment immediately after use with Methyl Ethyl Ketone or Xylene. Clean spills or drips while still wet with same solvent. Cured DURALTEX will require mechanical abrasion for removal.

11. **PACKAGING:** DURALTEX products are available in 3 and 15 gallon units.
STORAGE: 50-90°F. Protect from moisture and freezing.
SHELF LIFE: Two years in original container, properly stored.

12. **CAUTIONS:** Application temperature should be 50-90°F. 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 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.

13. **ENVIRONMENTAL/SAFETY: Industrial Use Only. Component A** contains epoxy resin. Vapors can cause respiratory irritation. Skin and eye irritant. Can cause sensitization after prolonged or repeated exposure. Use of safety goggles and chemical resistant gloves is recommended. Use only with adequate ventilation. **Component B is CORROSIVE.** Contains amines. Contact with eyes and skin may cause severe burns. Can cause sensitization after prolonged or repeated use. Use of safety goggles and chemical resistant gloves is highly recommended. Use only with adequate ventilation. In case of skin contact, wash immediately and thoroughly with soap and water. For eye contact, flush immediately with plenty of water for at least 15 minutes. Consult physician immediately. For respiratory problems, remove person to fresh air. **Disposal:** Collect with absorbent material. Dispose of in accordance with current local, state and federal regulations. **Read Material Safety Data Sheet before using. For industrial use only. KEEP AWAY FROM CHILDREN AND ANIMALS. Emergency response phone numbers: (800) 424-9300 (CHEMTREC) or (800) 862-2667 (TAMMS).**

14. **CHEMICAL RESISTANCE CHART**
Applicable for exposures at room temperature when applied at a minimum of 40 mils thickness. This guide is intended as an aid in determining the potential usefulness of DURALTEX as a protective barrier against individual chemical exposure. Each actual application should be individually evaluated to determine the proper product.

15. **TECHNICAL SERVICE:** For application procedures or surface conditions not specified above, please contact:

TAMMS INDUSTRIES
3835 State Route 72, Kirkland, IL 60146
800-862-2667 Fax: 815-522-2323
www.tamms.com

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		DURALTEX 1705 & 1707	DURALTEX 1805 & 1807
Acetic	50%	4	4
	10%	3	2
Chromic	10%	1	1
	50%	2	1
Citric	10%	1	1
	50%	2	1
Formic	25%	4	4
	98%	4	4
Hydrochloric	10%	1	1
	37%	2D	1
Hydrofluoric	25%	4D	4
Lactic	85%	2	2
Nitric	10%	2	1
	45%	4	4
Phosphoric	10%	1	1
	85%	3	2
Sulfuric	10%	1	1
	75%	1	1
	98%	4D	2
Miscellaneous			
Brake Fluid		1	1
Ethylene Glycol		2	1
Formaldehyde	37%	2	2
Gasoline		2	1
Propylene Glycol		2	1
Skydrol		1	1
Vegetable Oil		1	1

Solvents		DURALTEX 1705 & 1707	DURALTEX 1805 & 1807
Ethyl Alcohol	95%	3	2
Ethyl Acetate		4	4
Methanol		4	4
Methyl Ethyl Ketone		4	4
Methylene Chloride		NR	NR
Mineral Spirits		1	1
Toluene		2	2
Tricholoroethane		2	1
Xylene		2	2
Alkalies / Salts			
Ammonia	29%	1	1
Ammonium Sulfate	50%	1	1
Calcium Chloride		1	1
Diethanolamine		2	1
Ferric Chloride	50%	3D	2D
Hydrogen Peroxide	35%	2D	1D
Potassium Hydroxide	50%	1	1
Sodium Hydroxide	50%	2	1
Sodium Hypochlorite	10%	2D	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