

DURALBOND®

Epoxy Bonding/Grouting Compound

03050
BASIC CONCRETE MATERIALS AND METHODS
CONCRETE

TAMMS INDUSTRIES
JANUARY 2001 (Replaces 1/00)

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- DESCRIPTION:** DURALBOND is a multi purpose, two part, 100% solids, moisture insensitive epoxy bonding/grouting adhesive compound.
- USES:** DURALBOND is used to bond fresh plastic concrete to hardened concrete, brick, heavy weight concrete block or steel. It is ideal for use in bonding extensions to concrete, pavements, coating rebars and as a general purpose adhesive to bond concrete, wood or metal. It can be used neat or with aggregate to grout bolts, dowels or pins in concrete. It can also be used to grout horizontal cracks in concrete.
- COMPOSITION AND MATERIAL:** DURALBOND is a two part, 100% solids, epoxy which is moisture insensitive before, during and after cure.

tance must be removed. The preferred method of surface preparation is abrasive blasting or shotblasting. 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 cracks, 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 shotblasting. If it is not possible to sandblast or shotblast, acid etch with a 15% Hydrochloric acid solution followed by pressure washing or flushing 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. For grouting applications, ensure that the hole is free of any debris or standing water. Following surface preparation, the cleaned surface should pull concrete when tested with a pull tester, or an elcometer (ASTM D4541).

Steel: All oils, greases, dirt, old coatings or chemical contaminants must be removed. All surfaces should be blasted to a near white metal finish using clean dry aggregate.

- MIXING INSTRUCTIONS:** Premix Part B with a slow speed motor and "Jiffy" mixer, to a uniform color and viscosity. Pour equal volumes of Part A and Part B into a clean, dry container, and mechanically mix for a minimum 3 minutes. Make sure to scrape the sides and bottom of mixing container while mixing. Do not whip or aerate DURALBOND while mixing.

- APPLICATION TECHNIQUES: Fresh to hardened concrete:** Apply mixed DURALBOND by brush, roller, broom or spray. Place fresh concrete while DURALBOND is still tacky, the contact time is typically 2-3 hours at 75°F and 1-1½ hours at 90°F. If DURALBOND loses tackiness, remove surface contaminates and reapply DURALBOND before placing any fresh concrete.

Bonding anchor bolts/dowels: DURALBOND can be used neat or with an aggregate to anchor bolts in vertical holes in horizontal slabs. Depth of embedment is typically 10-15 times the bar diameters and the hole should be no greater in diameter than 1/4 inch larger than the rod to be anchored. For more information on anchor bolt grouting consult the Anchor Bolt Grouting Installation guidelines which are available upon request.

MATERIAL PROPERTIES	
75°F (23.9°C)	
Color:	Lt. Gray
Mixing Ratio (Parts A:B) by Volume	1:1
Viscosity (Parts A & B mixed) cps	4000 - 8000
Contact Time - Concrete, hrs at 75 F	2 - 3
Gel Time (100 gms sample), min	35 - 50
Pot Life (2 gal. unit), min	15 - 20
Tensile Strength psi, ASTM D638	5100
Tensile Elongation %, ASTM D638	1 - 5
Compressive Strength psi, ASTM D695	10,300
Compressive Modulus: psi, ASTM D695	200,000
Compressive Strength psi, (1 part sand) ASTM C109	9000
Flexural Strength psi, 7 days ASTM D-790	7700
Hardness Shore D, ASTM D2240	90 - 95
Bond Strength, psi, ASTM C882	2 days 1800 14 days 2400
Heat Deflection Temp. Deg. F ASTM D648	121

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

- COMPLIANCE:** DURALBOND meets or exceeds the following standards:
 AASHTO M235-88, Type II
 ASTM C881-90, Type I, II
 Grade 2, Class B & C
 Federal Specification
 MMM-A-001993, Type I.
- SURFACE PREPARATION:** Concrete must be structurally sound, dry, free of grease, oils, coatings, dust, curing compounds and other contaminants. Surface lai-

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Repair horizontal cracks: Apply the mixed neat material to the vee-notched crack until the crack is filled completely.

8. **COVERAGE:** As bonding compound for fresh to old concrete 80 - 90 sq.ft./gal. For anchoring, 1 neat gal yields 231 cu.in. of grout. 1 gal neat DURALBOND with 1 gal dry 20-40 mesh silica sand will yield approximately 410 cu. in. of mortar. Coverage will vary depending on surface texture, porosity and temperature.

9. **CLEAN-UP INSTRUCTIONS:** Clean tools and application equipment immediately after use with methyl ethyl ketone, or xylene. Clean overspray or drips while still wet with solvent. Dried DURALBOND will require mechanical abrasion for removal.

10. **PACKAGING:** 4 gallon case, 10 gal unit.
Storage: 50 - 90°F (10 - 32.2°C), protected from moisture.
Shelf Life: 2 years, unopened, proper storage.

11. **CAUTIONS:** The temperature should not fall below 40°F during DURALBOND application and cure. The materials should be conditioned at 75°F when used for low temperature applications. Do not aerate DURALBOND during mixing. New concrete must be placed while DURALBOND is tacky. DURALBOND is not intended for sealing cracks under hydrostatic pressure.

12. **ENVIRONMENTAL SAFETY PRECAUTIONS:**
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 or 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.
First Aid: 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.

**KEEP AWAY FROM
CHILDREN AND ANIMALS.**

13. **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

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