

ANVIL-BOND™

Epoxy bonding agent

DESCRIPTION:

ANVIL-BOND™ bonding agent is a 100% reactive, two component, modified aliphatic amine type epoxy resin. It contains no solvents, fillers or colorants, and is intended for use in bonding portland cement-based topping mixes to properly prepared and cleaned concrete surfaces.

RECOMMENDED FOR:

- Structural bonding of specially designed, high strength toppings such as Master Builders ANVIL-TOP® toppings
- Structural bonding to properly roughened, set concrete
- Structural bonding of fresh concrete to properly prepared, existing concrete

FEATURES/BENEFITS:

- Excellent bond for high strength metallic toppings

PACKAGING/ESTIMATING:

ANVIL-BOND is a two component epoxy bonding agent, packaged and proportioned for complete unit mixing. Part A is packaged in a 2.0 U.S. gal (7.57 L) can; and Part B is packaged in a 1.0 U.S. gal (3.79 L) plastic pail. For best results, material should be between 50 °F and 80 °F at time of use.

One unit of ANVIL-BOND yields 2.72 U.S. gal (10.3 litres).

Surface Texture	Application Area per One Mixed Unit	Application Area ft²/U.S. Gallon (m²/liter)
Chipped	125 to 175 ft² (11.6 to 16.3 m²)	45 to 65 (1.1 to 1.6)
Sandblasted or Shotblasted	275 to 400 ft² (25.5 to 37.2 m²)	100 to 150 (2.5 to 3.6)

PERFORMANCE DATA:

Viscosity (mixed)	700 cps	(77 °F)
Gel Time (150 ml)	30 minutes	(77 °F)
Drying Time	@ 50 °F	16 hours
	@ 70 °F	6 hours
	@ 90 °F	3 hours

Water Absorption (ASTM D-570)	0.169%
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Compressive Strength (ASTM D-695)	1 day	7000 psi
	7 days	8880 psi

Tensile Bond Strength (4000 psi concrete substrate)	7 days	300 psi
	28 days	350 psi

Shear Bond (ASTM C-882)	7 days	1500 psi
	28 days	1880 psi

Open Time	90 minutes @ 77 °F
Color	Part A: Clear yellow
	Part B: Clear amber

The following information regarding surface preparation, mixing and application is provided as a brief overview. For detailed instructions before use of this product, reference the ANVIL-BOND product packaging.

SURFACE PREPARATION:

Square cut the perimeter of the area to be topped to a depth of at least 1 in. (25 mm). Roughen the surface to ensure a profile is obtained that exposes distinct large, firmly held aggregate by means of (in order of preference):

Chipping the surface using a 60 lb (27 kg) [or less] pneumatic chipping hammer equipped with a square point chisel. Follow with small scabber or high pressure waterblast followed by drying, to further gouge surface and eliminate loose base material.

Scarifying or using other mechanical (gouging) means.

Shotblast with proper size shot, or sandblast, to a degree in which it can be ascertained that a strong, dense surface is obtained over entire area to be topped, coarse aggregate should be exposed. Bottom of cutout should not be unduly irregular in the interest of reducing surface area and therefore, quantity of epoxy required. Medium and large sized aggregate should be exposed, but surface must be moderately rough and not polished. (See ASTM D-4259 for standard practices for abrading concrete.)

Base slab must be clean of all oil, debris, dust and other foreign matter which may hinder bond. Follow with complete cleaning using compressed air. Surface must be free of moisture per ASTM D-4263-83.

Test surface for hardness with a sharp, tempered nail or sharp knife to assure sound surface. Further testing of slab for presence of carbonated contaminants with dilute acid or phenolphthalein is highly recommended.

MIXING:

Stir Parts A and B separately before mixing together. Use a slow speed (600 RPM) drill with paddle for mixing. Proper mixing will take 3 to 5 minutes. Do Not Mix By Hand.

Mix Ratio	Part A (Resin)	Part B (Hardener)
by volume	1.72	1.00
by weight	16.68 lb (7.57 kg)	8.34 lb (3.74 kg)

APPLICATION:

Apply ANVIL-BOND in a uniform coat with a short nap roller, squeegee, stiff brush or broom, (depending on texture of surface) and according to manufacturer's recommendations. A chipped floor will require a stiff broom or brush to ensure good placement of bonding agent.

In case of any dust having settled on the base slab between the time of preparation and applying bonding agent, work ANVIL-BOND into the surface with a back and forth scrubbing motion to completely mix dust into the bonding agent rather than allowing it to remain below epoxy and act as a potential bond breaker. An acceptable method is to employ an electric scrubbing machine equipped with a brush pad to mix dust and epoxy while scrubbing epoxy into concrete surface.

Note: You MUST apply the topping while the ANVIL-BOND is still tacky. DO NOT allow the ANVIL-BOND to completely harden.

LIMITATIONS:

- DO NOT use ANVIL-BOND epoxy bonding agent
 - for applications where the base concrete surface is moist. The surface must be dry:
 - when the bonding agent, the substrate or the ambient temperature is lower than 50 °F (10 °C) and falling, or higher than 90 °F (32 °C) at the time of use.
 - where the hardened base concrete is not clean, free of dust or loose material.
 - where the structural concrete is not sound or has not been roughened, with coarse aggregate exposed by methods such as sandblasting, chipping or shotblasting.
 - if topping cannot be applied while ANVIL-BOND is still tacky.
- Provide adequate ventilation. Avoid breathing of vapors. Wear rubber gloves, apron, knee pads and goggles. Do not get product into eyes, on skin or on clothing. Refer to product MSDS for details.
- Be aware that higher temperatures and/or windy conditions will greatly reduce the open time of ANVIL-BOND.
- This product has a shelf life of a minimum of 12 months when stored in sealed containers at temperatures between 32 °F and 120 °F (0 °C and 49 °C). DO NOT store ANVIL-BOND bonding agent at temperatures below 32 °F (0 °C) or higher than 120 °F (49 °C). If the product freezes, warm slowly to 80 °F (27 °C) and stir well before mixing.

RELATED BULLETINS:

Material Safety Data Sheet — ANVIL-BOND

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