

ARMOR PLATE - TITANIUM

K-030

Easily applied using a trowel or a spatula
Machinable after initial cure of 2.5 hours
Temperature resistance to 350 °F

Excellent resistance to a broad range of chemicals
Compressive strength up to 20,000 psi.
Qualifies under Mil Spec DOD-C 24176B

GENERAL PRODUCT INFORMATION

Armor Plate - Titanium is a two-component titanium-reinforced epoxy system, which has been specifically designed for durable repairs of damaged or worn precision parts. Armor Plate - Titanium may be drilled, tapped, turned or machined. It is ideal for rebuilding bearing housings, scored shafts, wear rings, hydraulic rams, or other equipment which requires a machined finish.

Armor Plate - Titanium is non-corroding or rusting in water, with excellent chemical resistance to a wide range of chemicals.

RECOMMENDED APPLICATIONS

- * Restore bearing housings and scored shafts.
- * Rebuild wear rings, hydraulic rams and valves.
- * Repair equipment and parts that require a machined finish.

TYPICAL HANDLING CHARACTERISTICS

MIX RATIO, pbv (pbw)	3/1 (5.74/1)
COLOR	Grey
MIXED CONSISTENCY	Putty
VOLUME SOLIDS, %	100
CURED DENSITY, lb/gal	22.5
WORKING TIME, min	20
CURING TIME, h	6
VOLUME PER 1 lb KIT, in. ³	10
APPROXIMATE COVERAGE PER POUND @ 0.5 in. thickness, in. ²	20

TYPICAL PROPERTIES: 7 days cured @ 75 °F

COMPRESSIVE STRENGTH, psi	20,000	ASTM D 695
TENSILE STRENGTH, psi	5,500	ASTM D 638
FLEXURAL STRENGTH, psi	9,300	ASTM D 790
HARDNESS, Shore D	90	ASTM D 2240
WEAR RESISTANCE - HIGH VELOCITY SLIDING PARTICLE (WT. LOSS),%	0.21	
TENSILE SHEAR STRENGTH, psi	2,200	ASTM D 1002
IZOD IMPACT STRENGTH, NOTCHED, in.-lb/in.	6.48	ASTM D 265

APPLICATION INSTRUCTIONS

Step 1 - Surface Preparation - The surface to be coated must be free of all rust, scale, dirt, dust, grease, oil, release agents, or other contaminants. Preheat the surface to 100 °F (this will drive off any moisture). For smooth surfaces or where vibration is a concern, tack weld an open mesh screen or expanded metal approximately 1/16 to 1/8 in. above the surface. Chip off weld slag.

Step 2 - Measuring - Armor Plate - Titanium kits are supplied with the resin and hardener pre-measured in the correct mixing ratio. It is best to empty the entire contents of both the resin and hardener onto the mixing board to insure that the proper mixing ratio is maintained.

If less than a full kit is required for the job both the resin and hardener **must** be **accurately** measured out. DO NOT ATTEMPT TO "EYEBALL" THE AMOUNT NEEDED. Use a scale to weigh out each component or use measuring cups to measure by volume. Adding more or less hardener will only degrade the physical properties.

If the kit is colder than 60 °F, preheat both the resin and hardener by placing the cans in a hot water bath. The water temperature should not exceed 90 °F as higher heat will reduce the working time of the mix. Heating of the cans with a torch or other direct flame is highly dangerous and should **NEVER BE DONE**.

Step 3 - Mixing - After the components have been measured out onto a clean, flat mixing board, mix thoroughly with a trowel until the mixture becomes a uniform color (about 2 minutes). For mixing the largest kits, a mixing paddle and heavy duty, slow speed drill may be used. However, the mechanical energy put into the mix by the drill may result in a shortened worklife and a lessening of the non-sag characteristics of the Armor Plate.

Step 4 - Application - Apply the mixture immediately with a trowel or putty knife. Cover large holes or cracks with screen, paper or fiberglass cloth and apply Armor Plate - Titanium over the patch and onto an adjacent sound area.

SAFETY PRECAUTIONS

Avoid breathing of vapors. Forced local exhaust is recommended to effectively minimize exposure. NIOSH approved, organic vapors respirators and forced exhaust are recommended in confined areas, or when conditions (such as heated polymers, sanding) may cause high vapor concentrations. Do not weld on, burn or torch backing or any epoxy material. Avoid skin or eye contact. Wash skin with soap and water if contact occurs. If eye contact occurs flush with water for 15 minutes and obtain medical attention. Read and understand all cautions on can labels and material safety data sheets before using this material.

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