



TM 109 is a metallic coating that deposits at a high rate of speed. It exhibits good corrosion resistance & good ductility on all ferrous & non-ferrous metals.

USER BENEFITS

GOOD DUCTILITY
GOOD CORROSION RESISTANCE
EASILY GROUND (SEE REVERSE SIDE)
MAGNETIC COATING

MACHINEABILITY
HIGH RATE OF DEPOSIT (0.006 PER HOUR)
RELATIVE UNIFORM COVERAGE

SUMMARY

TM 109 is primarily used in salvage of worn or mis-machined diameters. It is especially useful on parts requiring heavy build-up of material. Up to .100 may be deposited in a single day. TM 109 is a process in which a metallic alloy is deposited on the base material. The structure of the deposit is crystalline in formation, which creates a high coefficient of friction. This material should not be used on wear applications as a substitute for chrome or electroless nickel.

TM 109, as deposited, has a hardness of approximately 20 Rockwell C. As such, it is very useful for repair of worn or mis-machined parts in low-wear applications. At this hardness, the material can be machined with most cutting tools; however, grinding is recommended for optimum results. In salvage operations, where fatigue values are critical and a hard case is required, TM 109 has been found to be extremely useful.

TM 109 can be selectively plated easily and quickly on almost any area, section or surface. The deposit will cover the area to be coated more evenly than other types of electrolytic plating, allowing the quick and easy repair of slots, keyways and splines. Unlike spray metal, TM 109 has excellent adhesion and can be plated with electroless nickel or hard chrome for optimum wear ability.

TM 109 has varied applications and uses. It is good for nuclear industry applications because of its high purity. It has proved its uses throughout the railroad, aircraft and hydraulic industries in various salvage operations. For a specialized application, contact our service department for assistance.



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Grinding Recommendations for TM 109

Studies of surface, cylindrical, and internal grinding of TM 109 have been made. Suggestions for grinding TM 109 are given in Table I.

The grinding wheels in each instance were diamond dressed. The grinding fluid was proprietary, water-soluble oil comprising emulsifiers of natural and synthetic origin, animal and mineral oil, germicides and inorganic salts. One part of the soluble oil and 40 parts water were used to make the emulsion for grinding.

Table I

Item	Surface Grinding	Cylindrical Grinding	Internal Grinding
Grinding Wheel			
Designation	57A46H12VBEP ^a	57A80-L5VBE	57A60-J5VBE
Size, inch	8 x ½ x 1¼	20 x 2 x 5	1 x 7/8 x 3/8
Speed			
Wheel, surface ft. / min.	5000	6000	4800
Table traverse, in. / min.	400	-----	-----
Work, surface ft. / min.	-----	80	90 to 120 ^c
Traverse, in. / min.	-----	30 to 90 ^b	20 to 60 ^c
Wheel Feed			
Roughing, inch			
Wheel	.003	-----	.0005
Cross	.010 - .015	-----	-----
Roughing & Semi-finishing, inch	-----	.001	-----
Finishing, inch			
Wheel	.0005	.00025	.00025
Cross	.030 - .035	-----	-----

a For dry grinding use wheel designated 57A46F12VBEP.

b A speed of 30 inches per minute, or somewhat less, produces the best finish.

c The minimum speeds, and somewhat lower, produce the best finish