



SERFILCO®

CHEMICAL RESISTANCE GUIDE FOR MATERIALS

TECHNICAL BULLETIN
T-108
NOV. 2001

ACCEPTANCE LEGEND 1 - Resistant to 200°F (93°C) 2 - Resistant to 180°F (84°C) 3 - Resistant to 160°F (73°C) 4 - Resistant to 140°F (62°C) 5 - Resistant to 110°F (45°C) 6 - Resistant to 80°F (27°C) Q - Questionable X - Not recommended Without organic additives	PVC	CPVC	PP	PP-PDX	PPO (Noryl®)	PPS (Ryton®)	PVDF (Kynar®)	PTFE (Teflon®)	ETFE (Tefzel®)	ECTFE (Halar®)	304SS	316SS	HASTELLOY® B	HASTELLOY® C	TITANIUM	CARBON	CERAMIC	TFE (Fulon®)	SiC	BUNAN	SILICONE	NEOPRENE®	EPDM	VITON®	HYPALON®	KALREZ®
	COMMON PLATING SOLUTIONS	PLASTICS									METAL				SEALS & BUSHINGS				ELASTOMERS							
Alkaline Soak Cleaner (typical)	6	Q	3	2	2	4	X	1	1	1	1	1	1	1	1	3	3	3	1	6	6	6	2	6	1	1
Alkaline Electrocleaner (typical)	6	Q	3	2	2	4	X	1	1	1	1	1	1	1	1	3	3	3	1	6	6	6	2	6	1	1
Anodizing - Sulfuric Acid	5	2	4	3	3	3	2	1	1	1	X	X	1	1	6	3	3	2	1	X	X	X	2	1	2	1
Anodizing - Chromic Acid	5	1	X	X	X	4	1	1	1	1	X	X	2	6	3	3	3	2	1	X	X	X	6	1	2	1
Brass - Cyanide Copper / Zinc	6	X	3	2	5	3	X	1	1	1	3	3	1	1	1	3	4	2	1	6	6	6	2	X	3	1
Bronze - Cyanide Copper / Tin	6	X	3	2	5	3	X	1	1	1	3	3	1	1	1	3	5	2	1	6	6	6	2	X	3	1
Cadmium - Cyanide	6	6	3	2	5	3	X	1	1	1	3	3	1	1	1	3	5	2	1	6	5	6	2	X	3	1
Chromium - Hex, Decor & Hard	6	4	X	X	X	4	2	1	2	2	X	X	6	4	1	6	3	2	1	X	X	X	X	4	4	1
Chromium - Trivalent	5	4	6	5	6	4	1	1	1	1	X	X	1	1	1	5	3	3	1	X	6	6	3	3	1	1
Copper - Cyanide	6	X	4	3	5	3	X	1	1	1	3	3	1	1	1	3	4	2	1	X	6	6	3	X	1	1
Copper - Pyro	6	5	3	2	4	4	6	1	1	1	4	4	4	4	1	3	5	2	1	X	6	6	3	6	1	1
Electroless Copper	6	5	5	4	5	4	X	1	1	1	X	X	X	X	X	X	5	4	1	X	X	X	3	X	1	1
Copper Sulfate, Decor & PCB	5	3	4	3	5	2	1	1	1	1	X	X	X	X	4	6	4	3	1	X	X	X	4	2	1	1
Copper Fluoborate	6	5	4	3	6	2	5	1	1	3	X	X	6	6	X	6	Q	4	3	6	X	5	4	3	4	1
Gold - Acid	6	5	4	3	5	4	2	1	1	2	X	6	6	5	4	5	6	3	2	6	6	6	4	3	2	1
Gold - Neutral	6	5	4	3	4	4	3	1	1	2	6	6	6	5	2	4	5	2	1	6	6	6	4	3	2	1
Gold - Cyanide	6	5	4	3	5	4	X	1	1	2	6	6	6	5	2	5	5	2	1	6	6	6	4	4	3	1
Gold - Immersion	6	6	5	4	3	4	X	1	1	2	X	X	X	X	X	Q	5	3	1	6	6	6	4	5	4	1
Nickel - Watts	4	2	3	2	4	2	2	1	1	1	X	X	2	3	1	3	3	2	1	3	5	6	2	2	2	1
Nickel - Sulfamate	5	2	3	2	4	2	2	1	1	1	X	X	2	3	1	3	3	2	1	3	5	6	2	2	2	1
Nickel - Woods	5	2	3	2	4	2	2	1	1	1	X	X	3	4	3	3	3	2	1	6	6	6	3	2	2	2
Electroless Nickel	6	2	5	4	6	4	2	1	1	2	X	Q	X	X	Q	Q	3	2	1	6	6	6	3	1	2	1
Palladium - Amine	6	X	5	4	6	5	Q	2	2	2	2	2	3	3	3	2	3	2	1	6	6	6	4	Q	3	2
Palladium / Nickel	6	5	4	3	3	2	5	1	1	1	X	X	2	3	2	2	3	2	1	5	6	6	2	5	1	1
Rhodium	6	3	3	2	4	2	2	1	1	1	X	X	X	X	6	3	3	2	1	3	6	6	3	2	1	1
Silver - Cyanide	6	6	4	3	5	3	X	1	1	1	X	X	X	X	X	3	3	2	1	6	6	6	3	Q	2	1
Tin - Sulfuric	5	4	4	3	3	3	2	1	1	1	X	X	X	X	X	3	3	2	1	6	6	6	3	2	1	1
Tin - MSA	6	5	4	4	6	4	2	1	1	3	X	X	X	X	6	3	3	2	1	6	6	6	3	3	1	1
Tin - Alkaline	X	X	4	3	4	4	X	1	1	2	2	2	2	2	2	4	3	2	1	6	6	6	3	X	2	1
Tin / Lead	6	5	4	4	6	4	2	1	1	3	X	X	X	X	6	3	3	2	1	6	6	6	3	3	1	1
Tin Fluoborate	6	5	4	3	6	2	4	1	1	3	X	X	6	6	X	6	Q	3	1	6	X	5	4	3	4	1
Zinc, Acid Chloride	5	2	4	3	4	2	2	1	1	2	X	X	6	5	2	3	3	3	1	X	X	6	5	2	2	1
Zinc, Alkaline	X	X	4	3	5	4	X	1	1	2	2	2	1	1	1	3	3	3	1	6	6	6	3	6	2	1
Zinc - Cyanide	X	6	4	3	5	4	X	1	1	2	2	2	1	1	1	3	3	3	1	6	6	6	3	6	2	1

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	WET PROCESSING - PCB										METAL					SEALS & BUSHINGS				ELASTOMERS							
Sodium Persulfate Microetch	6	4	4	5	6	3	4	1	1	2	X	X	X	X	X	3	3	2	1	X	X	X	4	3	2	1	
Peroxide / Sulfuric Microetch	6	6	5	4	6	6	4	1	1	3	X	X	X	X	X	4	4	3	2	X	X	X	3	2	2	1	
Black Oxide	6	5	5	4	4	4	X	2	2	3	X	X	6	6	1	6	X	5	1	X	X	X	6	X	3	1	
Solvent Conditioner	X	X	X	X	X	X	X	6	6	6	2	1	2	2	1	6	3	2	1	X	X	X	X	6	3	1	
Permanganate - Etch Back / Desmear	X	X	X	X	X	6	5	2	2	3	6	2	2	2	1	5	3	2	1	X	X	X	2	5	3	1	
Spray Etchant - Alkaline	5	5	4	3	5	5	5	1	2	3	X	6	5	4	2	4	4	3	1	X	6	6	4	6	3	2	
Spray Etchant - Chloride	5	4	5	4	5	4	3	1	1	1	X	X	6	4	2	4	4	3	2	X	6	6	5	3	2	1	
Catalyst / Activator	5	4	6	5	6	5	4	3	1	2	X	X	X	X	X	X	4	3	2	X	X	6	5	4	3	2	
Electroless Copper	6	5	5	4	5	4	X	1	1	1	X	X	X	X	X	X	5	4	1	X	X	X	3	X	1	1	
Photoresist Developer	5	4	4	4	5	4	6	1	1	1	1	1	1	1	1	4	4	3	2	6	6	6	4	6	2	1	
Photoresist Stripper	6	5	4	4	4	4	X	1	1	1	1	1	1	1	1	4	4	3	2	6	6	6	4	X	2	1	
COMMON ACIDS																											
Fluoboric Acid - 15% vol.	6	5	4	4	4	2	2	1	1	3	X	X	6	6	X	6	6	5	3	6	X	6	3	2	2	2	
Hydrochloric Acid - 30% vol.	6	3	5	4	3	3	1	1	1	1	X	X	4	5	6	6	6	4	2	6	6	5	3	1	1	1	
Nitric Acid - 50% vol.	6	6	6	6	6	6	4	3	1	3	X	6	6	5	2	X	6	3	2	X	X	X	6	3	3	2	
Phosphoric Acid - 30% vol.	6	3	2	2	2	2	1	1	1	1	X	6	4	3	3	5	5	3	1	6	X	6	3	3	3	2	
Sulfuric Acid - 15% vol.	6	4	4	4	5	2	1	1	1	1	X	6	2	3	4	4	3	3	1	6	6	6	3	2	1	1	
Hydrofluoric Acid - 30% vol.	6	6	5	5	Q	3	2	1	1	2	X	X	3	4	X	6	Q	3	2	Q	X	6	5	3	3	2	
COMMON ALKALIES																											
Sodium Hydroxide - 50% vol.	6	5	4	3	3	3	X	1	1	1	3	2	1	1	1	4	3	3	2	4	6	5	2	X	1	1	
Potassium Hydroxide - 25% vol.	5	4	3	3	4	3	6	1	1	2	3	2	1	1	1	4	3	3	2	4	6	5	2	X	1	1	
Sodium Carbonate - 25% vol.	4	3	3	2	3	2	3	1	1	1	2	1	1	1	1	3	3	2	1	3	4	3	2	2	1	1	
Sodium Hypochlorite - 5% vol.	6	4	6	5	5	2	2	1	1	1	X	X	4	4	1	6	3	2	1	Q	Q	Q	3	2	1	1	

NOTES: Use information as a guide only. Pressure and additives may decrease ratings. Contact SERFILCO Sales Department for specific recommendations.

Registered trademarks: Noryl - General Electric; Ryton - Phillips Chemical; Kynar - Atochem; Teflon, Tefzel - DuPont; Kalrez, Neoprene, Viton, Hypalon - DuPont Dow Elastomers; Halar - Ausimont; Rulon - Dixon; Hastelloy - Haynes, International