

HIPLATE LM 40® Chemical Nickel-Plating Characteristics

Protection against corrosion on aluminum, steel, iron and copper

- Increasing of hardness
- Very high corrosion resistance
- Excellent anti wear properties
- Astm B733 rev 4 compliant
- Nonmagnetic deposit
- NSF 51 food contact compliant
- Heat resistance (800°)
- More than 1000 h in NSS
- Homogeneous thickness over all surfaces

HIPLATE LM 40 is an electroless nickel plating process with a content of phosphorous between 10,5% an 13%. In order to maintain the main characteristics of a chemical nickel deposit like anti-corrosion and precision in surface distribution, Hiplate Lm 40 exhibits superior performance in applications where wear stress is challenging.

Properties and Technical Characteristics

Uniformity:

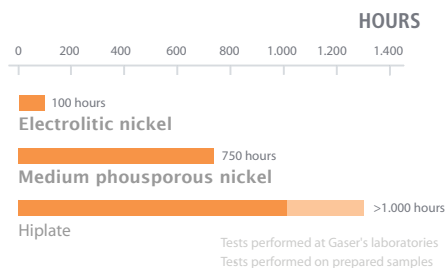
HIPLATE LM 40, being an autocatalytic nickel matrix processes, has a good distribution on all geometries with a compact and bonded deposit.

ANALYSIS		METALLOGRAPHIC, MEASURING THICKNESS					OF SURFACE COATINGS	
SAMPLE	Positions	Measures (µ m)					Mean	U (k=2)
1	Surface coating	52,6	53,0	53,4	52,8	53,1	53,0	1,3

Corrosion resistance:

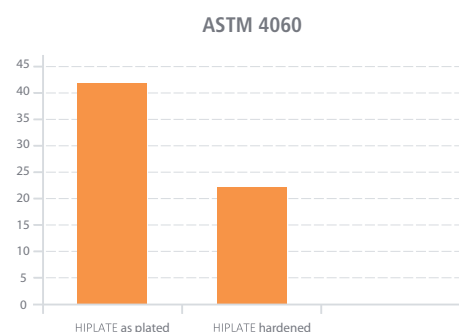
HIPLATE LM 40 exhibits good corrosion properties typical of an high phosphorus chemical nickel. Thanks to the compactness of the deposit and an amorphous structure, the number of through-porosities decreases drastically already at low thicknesses.

Sal fog tests ASTM B117

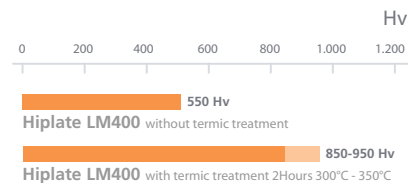


Abrasion resistance:

One of the main features of the **HIPLATE LM 40** is the anti-wear properties: extreme hardness and lubrication reduce the friction coefficient and limit abrasion.



Micro Hardness Test ASTM B578



- Tests performed at Gaser's laboratories
- Tests performed on prepared samples

HYGROSCOPIC CONDITIONING (42 °C UR %)

Control	Sample 2 HIPLATE	Sample 2 HIPLATE
600 h Test end	No formation of red corrosion product on the functional surface	No formation of red corrosion product on the functional surface

CORROSION TEST IN SALT SPRAY CHAMBER (ASS)

Control	Sample 1 HIPLATE	Sample 2 HIPLATE
24 h test end	No appearance of red corrosion product on the functional surface	No appearance of red corrosion product on the functional surface

Values to consider:

- Density: 7,86 grams/cm² at 20 C0
- Termic expansion: 13x10⁻⁶ cm/C0
- Elasticity: 20.000 Kg/mm²
- Resistivity: 60 µΩ/cm
- thermal conductivity: 0,0135 cal/cm/sec/C0
- Nonmagnetic
- Adhesion: 34-46 Kg/mm²

Applications

Oil&Gas, packaging, precision mechanics