

MPF painting system

The name "MPF system" identifies a type of steel painted with polyurethane resins reinforced with polyamide (PU/PA) and special ceramic beads, thus granting a top quality of the finished product, suitable to satisfy special needs as material workability, flexibility and punchability combined with the high hardness/scratch resistance given by the use of polyamide and ceramic beads; it is mostly used in auto-motive for profiles and prepainted molded.

Physical characteristics

Cold rolled steel, depending on the final quality required by customer, is subject to Hot Dip Galvanizing as per euro-norm; the zinc coverage shall never be lower than 100 gr/m².

The painting cycle foresees a non-chrome treatment of nitro-cobalt salts and a passivation of zirconium salts of the galvanized steel: this set of treatments will support the application of 5 µm of primer and 20 µm of paint to form a total dry layer of nominal 25 µm of organic protection. The lower side presents the application of 5/7 µm of foamable backcoat or, against a specific request of the customer, of the same painting cycle used on the upper side.

The MPF system allows for a higher colour reproduction, despite the environmental standards of Marcegaglia impose the use of non-toxic paints only, to be made without toxic pigments, as for example chromates, molybdates and lead salts.

Chemical and quality characteristics

Salt spray resistance (EN 13523-8)	The test is performed with reference and according to Euro-norm and does not allow for blisters on the cross over 2 mm per edge (total 4 mm) and, on the surface, more than the degree 8 from the ASTM D714 scale after 500 hours exposure
T-bend test (EN 13523-7)	The test determines the adhesion of the paint to the steel which must not exceed 0.5 t, and it is performed by tearing with adhesive ribbon the bending itself and the elasticity of the paint that must not crack over 1.5 t
Specular gloss (EN 13523-2)	It is measured with a gloss-meter having the incidence radius of 60° and depending on the superficial structure
Hardness (Scratch Test EN 13523-12)	The test is performed with reference and according to Euro-norm: the test results must be lower than 2.7 kg
Resistance to solvents (EN 13523-11)	After 100 double rubbing with cotton pad, soaked in Mek (metil-etil-chetone) and pressure of about 1 kg, the paint must not show any discrepancy nor defect