

GARBAFLEX 177 PH

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Flat and shaped wire

GARBAFLEX 177PH is a precipitation hardenable stainless wire for flat and shaped wire applications in corrosive atmosphere and elevated working temperature.

CHEMICAL COMPOSITION

| C (%) | Si (%) | Mn (%) | P max. (%) | S max. (%) | Cr (%) | Ni (%) | Al (%) |
|--------------|---------------|---------------|-------------------|-------------------|---------------|---------------|---------------|
| 0.09 | 0.70 | 1.00 | 0.025 | 0.015 | 16.00 - 18.00 | 6.50 - 7.80 | 0.70 - 1.50 |

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MECHANICAL PROPERTIES

FOR FLAT ROLLED WIRE

| Width (mm) | Tolerance (mm) |
|--------------|----------------|
| 1.00 - 5.00 | ±0.050 |
| 5.01 - 8.00 | ±0.070 |
| 8.01 - 10.00 | ±0.100 |

| Thickness (mm) | Tolerance (mm) |
|----------------|----------------|
| 0.30 - 0.80 | ±0.013 |
| 0.81 - 1.00 | ±0.019 |
| 1.01 - 1.60 | ±0.025 |
| 1.61 - 2.30 | ±0.050 |

FOR SHAPED WIRE

| Width (mm) | Tolerance (mm) |
|-------------|----------------|
| - 1.50 | ±0.020 |
| 1.51 - 3.00 | ±0.030 |
| 3.01 - 5.00 | ±0.040 |
| 5.01 - 7.00 | ±0.050 |
| 7.00 - | ±0.060 |

EXECUTION

Rolled on 2 sides (flat).
Rolled on 4 sides (shaped).

SURFACE CONDITIONS

SURFACE

Bright. Surface defects max. 1% of thickness.

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PHYSICAL PROPERTIES

E AND G MODULUS OF ELASTICITY

Abt. 180 kN/mm² in drawn condition.
Abt. 185 kN/mm² after heat treatment.

E AND G MODULUS OF SHEAR

Abt. 70 kN/mm² in drawn condition.
Abt. 73 kN/mm² after heat treatment.
Density: 7.90 kg/dm³.

STANDARDS

NEAREST EQUIVALENT STEEL GRADES

EN/DIN 1.4568, AISI/SAE 631, JIS SUS 631

NEAREST EQUIVALENT STANDARDS

EN 10270-3, ASTM A313, AMS 5678 F, JIS G4314

RECOMMENDATIONS

HEAT TREATMENT

For best spring properties the springs are heat treated at a temperature of 480 °C (896 °F) for 1 hour and then air cooled. The tensile strength of the wire before and after this treatment is given in the table for steel grade GARBA 177PH.