

Micro-Shear Cutter



Dimension : OAL: 127mm

Carbon steel type C

Features

- Carbon steel (material number 1.1221, Ck60, AISI 1060)
- Contains from 0.57-0.65 wt% carbon
- Magnetizable
- Will be hardened by heat treatment, max. hardness 57 HRC
- Poor resistance to corrosion
- Used where strength and/or hardness are of primary concern
- Typical applications include tweezers and cutting tools for the electronics industry, watch-makers, jewellers applications

Composition

Component	Wt.%
C	0.57-0.65
P	≤0.035

Component	Wt.%
Si	0.15-0.35
S	≤0.035

Component	Wt.%
Cr	≤0.4

Mechanical Properties

Density : 7.9 g/cm³
Tensile Strength, Ultimate : 850-1000 MPa
0.2% Yield Stress : 500 MPa
Modulus of Elasticity : 200 GPa

Thermal Properties

Coef. of lin. Therm Expansion : 11 E-6/°C (20°C to 100°C)
Coef. of lin. therm expansion : 12 E-6/°C (20°C to 300°C)
Specific Heat Capacity : 0.502 J/(gK)
Thermal Conductivity : 52 W/(mK)

Electrical Properties

Resistivity : 0.18 E-4 Ohm.cm

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Thermoplastic Elastomer TPE - ESD safe

Soft plastic (TPE)



Upper side

Features

- TPE Olefinic Thermoplastic Elastomer, Permanent Antistatic, ESD Protection
- Soft Plastic, was developed in order to achieve a surface resistance 10^8 to 10^9 Ohm in order to minimize the possibility of charge generation by wearing

Mechanical Properties

Tensile Strength : 2 MPa (ISO 527 ASTM D 638)
Tensile Elongation : 10 +% (ISO 527 ASTM D 638)
Hardness, Shore : 65-75 A (D-785)

Polypropylen Compound PP - ESD safe

Hard plastic (PP)



Bottom side

Features

- PP polypropylene-compound
- Hard Plastic, its function is to ground the metal tool (through the operators hand and the ESD wrist strap)

Mechanical Properties

Tensile strength at break (5mm/min) : 20 MPa (ISO 527 ASTM D 638)
Elongation at break (5mm/min) : >10% (ISO 527 ASTM D 638)
Tensile modulus +23°C : 1650 MPa (ISO 527 ASTM D 638)
Tensile strength +23°C : 190 MPa (ISO 527 ASTM D 638)
Izod-Impact strength (notched) +23°C : 13 kJ/m (ISO 179/2C)

Thermal Properties

Temp. of defl. under load (1.80 MPa) : 56°C (ISO 75 ASTM D 648)
VICAT softening point B (49 N) : 70°C (ISO 306)

Other Properties

Density : 0.97 g/cm³ (ISO 1183)

Part Number Table

Description	Part Number
Cutter, Micro-Shear, ESD, 127mm, Flush	22-24525

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