



DECLAFOR 1015

non-ferrous alloys
Copper Alloys

Material No.	DIN Abbreviation	AFNOR	AISI/SAE/ASTM	ISO	Euro Standard EN	Others
Declafor 1015	CuNi7.5Sn5Te				Declafor 1015	

Distinctive feature & main attribute: a free-machining, hardenable, non-ferrous copper-nickel-zinc alloy without beryllium or lead, proving ease of machining in drawn and annealed condition TDX and good conductivity; a quality of copper-beryllium alloy alike with age hardening capabilities and high mechanical properties.

Use & application range: this alloy matches processing of automatic lathes. It is widely used for electronics such as coaxial inter-connection devices for wearing parts suiting to high mechanical properties, turned parts as well as for spectacle parts and other cognate branches of industry.

REFERENCE ANALYSIS %	Ni	Cu	Sn
	7.50	87.00	5.00

EXECUTION DELIVERY FORM STANDARD SIZES AVAILABILITY	
	<ul style="list-style-type: none"> • Execution in 3 m round bars • Standard size in stock: see Programme range • Other sizes on request

TOLERANCES	ISO h9

PHYSICAL & MECHANICAL PROPERTIES	
	<ul style="list-style-type: none"> • Heat treatment: precipitation hardening 365+/-5 °C • Preservation time: 3 h • Cooling: ≥ 8 °C/min • Colour: lightly pink • Density (ρ) at 20 °C: 8.8 • Melting point: 960 °C
	<ul style="list-style-type: none"> • Electrical resistivity (R) at 20 °C: 13μΩcm • Electrical conductivity (σ): 13 % IACS • Thermal conductivity (λ) at 20 °C: 55 Wm.k • Linear coefficient of thermal expansion (0/200 °C): 17.2x10 /°C • Modulus of elasticity (E): 115 GPa

Modifications will not be adjusted automatically

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PHYSICAL & MECHANICAL PROPERTIES	• Tensile strength (R_m):	(MPa)	Ø 1 – 5 mm
	a) Annealed before hardening:	status TD 1	460 – 500 MPa
	b) Drawn, annealed before hardening:	status TDX	700 – 830 MPa
	c) After hardening:	status TH 1	780 – 840 MPa
	d) After hardening:	status THX	960 – 1100 MPa

CUTTING RATES	$v_c \sim 60 - 80 \text{ m/min}$, value depending on the lubrication oil, cutting tools and shape of parts.		
	• Cutting oil:	e.g. INOX or ORTHO of Motorex	