EN: This Datasheet/Document is presented by the manufacturer.

Please visit our website for pricing and availability at www.hestore.hu.

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Copper Wire, round, enamelled, type W 210

Description	The enamelled copper wire type W 210 is a winding wire with a round copper conductor according to EN13601 Cu-ETP with insulation consisting of polyester(imide), and polyamide as the over coat.
Properties	The wire type W 210 is a thermal class 200 heat resistant enamelled copper wire with an extensive range of good and very good quality features. The polyamidimide coating of the wire ensures very good thermal durability and overload stability as well as excellent mechanical abrasion resistance with a very low friction coefficient of the wire surface. Furthermore, it displays excellent resistance to chemicals, e.g. alkalines, detergents as well as impregnants, sealing materials, dilutions, solvents and refrigerants, incl. their vapours. In individual cases, special material compatibilities may have to be tested. Bonding occurs after mechanical skinning via soldering or direct connection, welding, crimping.
Application	The diversity of its excellent properties ensures type W 210 is an all-round wire for all applications which place above-average demands on resistances, processing with highly demanding winding or pull-in techniques or on general functional reliability. It is universally used in electric machines, generators and transformers of various sizes, especially if special mechanical and chemical operational demands apply, e.g. in refrigerators.
Standards	IEC 60317-13 DIN EN 60317-13 IEC 60317-0-1 DIN EN 60317-0-1 IEC 60851 series DIN EN 60851 series NEMA MW-35C UL approved RoHS compliant according to 2011/65 EC
Delivery format	Grade 1: 0.071 – 5.00 mm Grade 2: 0.071 – 6.00 mm

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Copper Wire, round, enamelled, type W 210

Technical data

Typical material properties of the enamelled copper wire type W 210, Ø 0.5 mm, grade 1[(4)] according to DIN EN 60317-13 and 60317-0-1

	Unit	
Mechanical		
Outer diameter	mm	max. 0.544 mm
Adhesion and elongation		1 x d, no cracks
Elongation at break	%	≥ 25 %

	Unit	
Electrical		
Dielectric strength at RT	kV	≥ 2.4 kV
High voltage defects on 30 m NominalØ > 0.125 ≤ 0.250 mm	V	≤ 25 at 750 V
Electric conductivity	m/Ωmm²	58.5 m/Ωmm^2

	Unit	
Thermal		
Temperature index TI		> 200
Softening temperature, tested		320 °C
Heat shock at 220 °C		2 x d, no cracks
Solderability		no

	Unit	
Chemical		
Enamel pencil harness after storage ½ h/ 60 °C in alcohol		min. H
Enamel pencil harness after storage ½ h/ 60 °C in standard solvent		min. H

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	Unit	
Chemical		
Resistance to commercial impregnants(1)		yes
Resistance to commercial refrigerants(1)		yes
Resistant to dry transformer oils(1)		yes
Resistance to hydraulic oils(1)		yes

(1)

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(1) Due to the variety of individual applications we cannot make any generally binding commitments regarding the compatibility. We recommend testing compatibility with the materials being used.

(2) Insulating varnish not polyamide modified.

(3) Not recommended for use in oil transformers.

(4) Tested according to IEC 60851-series, or DIN EN 60851-series, if not otherwise stated. The values shown correspond to the minimum requirements of the stated DIN EN standards. These standards do not rovide a guarantee of suitability for certain applications.

Temperature index (TI)

The temperature index is a dimensionless value and represents the long term thermal resistance or the admissible ageing temperature of the enamelled copper wire in °C for an extrapolated life span of 20,000 h. The temperature index does not necessarily correspond to the thermal class.

Thermal class

Enamelled copper wires according to IEC 60317-.. or DIN EN 60317-... are to be rated as Class X, if

(a) their long term thermal performance demonstrably proves an extrapolated life span of 20,000 h at an ageing temperature of min. X °C (tests preferably to be made on enamelled copper wires with a nominal diameter of 1.00 mm Grade 2) and

(b) the heat shock resistance complies with temperatures of 25 or 20°C above the rated thermal class.

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