Taped wires

2FO 101 round

- **Polyimide-Film taped copper wire**

Description:
The winding wire 2FO 101 is a round copper wire wrapped tightly with 2 layers of Kapton®(Polyimide)-tape with 51 - 53 % overlap. Both tapes are coated on one side with a Teflon®-(FEP)-adhesive. A suitable heat treatment melts the thermoplastic FEP-coating and thus bonds firmly the overlapping films. This nonporous, highly flexible insulation of superior thermal, electrical and chemical resistance is typically utilized in oil pump motors.

Dimensions:
Round copper according to IEC 60317-0-1.

Insulation Construction:

Type	Construction:
2FO 101	Lapping with 2-layer, one side FEP-coated Polyimide film, thickness 0.04 mm, overlap 51 - 53 %

Standards:
Polyimide-film insulated round wires meet the requirements of IEC 60317-43, Class 240.

Applications:
2FO 101 insulated wires are - due to their superior thermal, mechanical, dielectric and chemical properties - used especially where traditional wire insulations are inadequate.

Processing instructions:
Because of the excellent adherence of the insulation to the conductor, the low friction properties and mechanical toughness, such insulated wires can be processed on all common types of winding and coil forming machines.

- Nevertheless, when forming coils, the use of hard or sharp-edged tools is to be avoided.
- The best method for stripping the insulation of these wires is the mechanical one (using hand cutting tools or rotary knives).

		Value	Test norm
Increase in insulation			
Thickness increase due to insulation	mm	0.44 +/- 0.05	
Mechanical properties			
Elongation at break <= 2.5 mm	%	min. 30	IEC 60851-3, Test 6
> 2.5 mm	%	min. 33	
Springiness <= 1.6 mm	°	max. 30	IEC 60851-3, Test 7
>1.6 mm	°	max. 5	
Adherence after elongation	10 %	no loss of adhesion	IEC 60851-3, Test 8
Electrical properties			
Breakdown voltage	V	min. 6 000	IEC 60851-5, Test 13
Mandrel 3 x wire diameter	V	aver. 8 000	
Nominal resistance D.C. at 20 °C	Ohm.mm2/m	max. 0.01724	IEC 60851-5, Test 5
Thermal properties			
Heat shock at 260°C / 30 min.			
<= 1.6 mm, mandrel Ø 5 mm		no cracks	IEC 60851-6,
>1.6 mm, 15 % elongation		no cracks	Test 9

Appearance
Slight color variations are raw material or process-related and have no influence on the technical properties of the wire

Order data :
Quantity, Designation and Mode of Supply

The designation shall contain:

Type of wire	round (DR)
Nominal dimension e.g.	2.5 mm
Conductor material	Cu
Designation of the insulation	2FO 101

The mode of supply shall indicate the type of reel required, e.g. cylindrical reel according to IEC 60264-2 (identical with DIN 46399) or other types.

Example of complete order:
500 kg DR 2FO 101 2.50 mm, reels DIN 355