

Insulation materials

For more than 10 years leading companies in the field of wire insulation have been using products from PREIS. Just in Time delivery and high-quality manufacture of our products are essential for our customers. Due to our flexible production in Austria and our solid quality PREIS is able to react quickly and simply to customer requests. This way we can realise the best solutions for our customers.

PREIS & CO is a manufacturer of products that are used in the electrical industry for insulation of flat conductors. The following materials are used:



- Glass fibre yarns
- Cotton yarns
- Polyester yarns
- Mixed materials

The raw materials are removed from the plastic bobbins and wound on machines especially designed for this purpose according to the customer's requirements. A constant pulling force is guaranteed by a fully automatically working control. As carrier for the wound yarns we mainly use paper tubes.

Designation of glass fibre and glass fibre/polyester spools:



Example for glass fibre spool type: EC5- 5.5 tex Z40 x 16

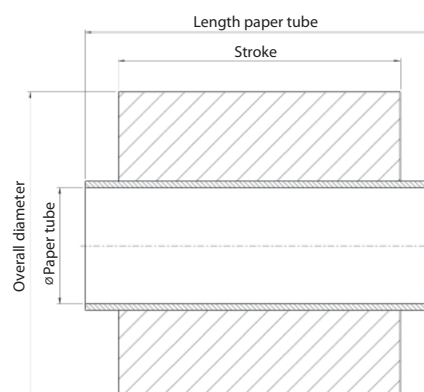
- E E-glass (Electrical glass formulation)
 C continuous filaments
 5 filament diameter in μm
 5,5 tex weight in grammes per 1 000 metres
 Z40 direction of twist (Z or S) as well as the number of twists per metre
 x16 number of filaments wound together

Example for glass fibre/polyester: (EC5- 5.5 PES 50) 11 tex x 20

- EC5-5,5 E-glass (see designation above)
 PES Polyester
 50 deztex = 5 tex
 11 tex weight in grammes per 1 000 metres
 x20 number of filaments wound together

Standard dimensions:

Paper tubes Inner d. x length [mm]	Overall diameter [mm]	Stroke [mm]	app. Weight [kg]
30 x 70	82	55	0,40
30 x 80	85	62	0,42
30 x 105	95	84	0,83
35 x 105	93	85	0,76
52 x 101	95	82	0,60
42 x 110	150	105	2,50
80 x 130	220	110	5,60



Materials regularly used in the production:

- EC5-2,8 Z40
- EC5-5,5 Z40
- EC5-11 Z40
- EC7-22 Z40
- EC9-34 Z40
- EC9-68 Z40
- (EC5-5,5 PES50) 11 tex
- (EC5-2,8 PES50) 8 tex
- Cotton

Technical data of glass fibre and glass fibre/polyester yarns:

EC5-2,8, EC5-5,5, EC5-11, EC7-22, EC9-34 and EC9-68	
Properties	E-glass
Density ρ	2,60g/cm ³
Tensile strength: Virgin filament tensile test Impregnated strand tensile test Tensile modulus Elongation	3400 Mpa 2400 Mpa 73000 Mpa 4,5 %
Softening point	846° C
Temperature resistance: Altered properties at	300° C
Strain point	600° C
Fire behaviour	Fire resistant
Moisture absorption	< 0,1 %
Thermal conductivity λ	1,0 W/m.K
Linear coefficient of thermal expansion α (between 20-100°C)	5.10 ⁻⁶ m/m/°K
Electrical rigidity	60-100 kV/mm
Dielectric constant ϵ at 1 MHz	6,4-6,7
Loss angle $\epsilon \text{ tg } \delta$ at 1 MHz	0,0010-0,0018

Mixed yarn: (EC5-5.5/ PES 50) 8 tex and 11 tex		
Properties	(EC5-5,5 PES50) 11 tex	(EC5-2,8 PES50) 8 tex
Density ρ glass fiber	2,60g/cm ³	
Density ρ polyester	1,3-1,4 g/cm ³	
Total weight per 1000 m	11 g	8 g
Softening point glass fibre	846° C	
Melting temperature polyester	200 - 260° C	
Self ignition point polyester	510° C	
Ratio glass fibre / polyester in %	52% / 48%	36% / 64%
Decomposition temperature polyester	> 350° C	

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