SynFlex Elektro GmbH
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SynTherm® YT56 (metastar® YT56)

SynTherm® YT56 is a synthetic medium density electro-insulation paper constructed of a calendered, aromatic polyamide fibride flock composition.

Attributes

SynTherm® YT56 is a Class H (180 °C) insulating material. Its mechanical, thermal and electrical properties are between SynTherm® YT510 and SynTherm® YT511.
Temperatures over 200 °C only slightly influence its electrical properties. The good mechanical properties can be extrapolated to significantly higher temperatures. SynTherm® YT56 is also suitable for use at temperatures to -190 °C due to its polymer-structure.
It has a high short-term dielectric strength. SynTherm® YT56 is compatible with all classes of common resins, varnishes, adhesives as well as transformer liquids, lubricants, and cooling agents. Common solvents may lead to slight reversible moisture expansion. SynTherm® YT56 has low flammability (UL 94V-0) and very high resistance to beta and gamma radiation.

Application

SynTherm® YT56 is designed for cost critical applications which require a moderate mechanical and electrical strength. Application ranges from phase insulation in AC and DC motors to layer insulation in wet and dry transformers and chokes, even exposed to beta and gamma radiation.

Standards

- Insulating material class H (180 °C)
- UL listed (RTI mech. + electr. 210 °C)
- UL file no. E358562

Delivery forms

Material thickness in µm:
130, 180, 250, 300, 510, 760
SynTherm® YT56 is available:
- in tapes: depending on material thickness on request beginning at 6mm (thin material)
- in rolls: 1000 mm
Feathering:
- depth approx. 1 - 12 mm, distance approx. 1 - 10 mm
- 10 mm up to 240 mm tape-width, thickness on request

Base

Calandered, aromatic polyamide fibride flock composition

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Updated 10/18

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Mechanical	Unit of measure						
Nominal thickness	µm	130	180	250	300	380	510
Typical thickness	µm	130	180	250	300	380	500
Specific weight	g/m²	86	125	172	245	265	342
Tensile strength longitudinal	N/cm	100	155	200	300	260	320
Tensile strength transversal	N/cm	40	60	80	145	130	150
Elongation at break longitudinal	%	8	9	9.5	12	10.5	11
Elongation at break transversal	%	8.5	9.5	10	13	11	11.5
Elmendorf tear strength longitudinal	N	1.5	2.5	3.0	5.5	8.5	11.5
Elmendorf tear strength transversal	N	3.5	5	6.0	7	12.5	14.5

Mechanical	Unit of measure			Test method
Nominal thickness	µm	610	760	

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Mechanical	Unit of measure			Test method
Typical thickness	µm	610	760	GB/T451.3-2002
Specific weight	g/m²	414	532	GB/T451.2-2002
Tensile strength longitudinal	N/cm	375	420	GB/T12914-2008
Tensile strength transversal	N/cm	180	200	GB/T12914-2008
Elongation at break longitudinal	%	10.5	10	GB/T12914-2008
Elongation at break transversal	%	11	10	GB/T12914-2008
Elmendorf tear strength longitudinal	N	N/A	N/A	GB/T455-2002
Elmendorf tear strength transversal	N	N/A	N/A	GB/T455-2002

Electrical	Unit of measure						
Nominal thickness	µm	130	180	250	300	380	510
Field intensity	kV/mm	11	11	12	15	12	13

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Electrical	Unit of measure			Test method
Nominal thickness	µm	610	760	
Field intensity	kV/mm	13	13	GB/T1408.1-2006

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