

## Electrical insulating materials

### 3M™ Thermavolt | FI 15130

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**Description:** 3M™ Thermavolt | FI 15130 inorganic calendered insulation papers are based on inorganic material technology developed to meet the high performance requirements in high-temperature dry-type transformers. They offer excellent properties in terms of dielectric strength and thermal conductivity and are therefore particularly suitable for use in insulating coils and tape winding or wire winding.

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**Features:** 3M™ Thermavolt | FI 15130 is halogen-free according to IEC 61249-2-21 standard and UL® certified for Class N (200°C). It offers excellent resistance to partial discharge damage, long-term high temperature dielectric strength, mechanical strength and thermal conductivity, and good electrical dielectric strength. In addition, 3M™ Thermavolt | FI 15130 high moisture resistance and excellent absorption capacity for impregnating agents .

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**Application:** 3M™ Thermavolt | FI 15130 is used, for example, for motors, coils and electromagnets. 3M™ Thermavolt | FI 15130 is suitable for use in electrical insulation systems (EIS) according to UL® 1446 and IEC 60085. These papers are listed in the UL database under the file numbers E65069 and E65007.

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**Standard color:** 3M™ Thermavolt | FI 15130 comes standard in a yellowish color.

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## 3M™ Thermavolt | FI 15130

**Delivery forms:** 3M™ Thermavolt | FI 15130 is supplied in material thicknesses of 0.05 to 0.51 mm. In addition, 3M™ Thermavolt is delivered as a stamped or molded part, cut, as a strip and on a roll. Coatings are also possible. Other delivery forms and dimensions on request.

Characteristics	Test method	Unit	Value Thermovolt	Value Thermovolt
thickness	ASTM D645	mm	0.05	0.08
		mil	2.0	3.0
Base weight	ASTM D202	g/m <sup>2</sup>	67	103
Mechanical strength direction of travel	ASTM D828	N/mc	14	30
Mechanical strength transverse direction	ASTM D828	N/mc	7	14
Dielectric strength	ASTM D149	kV	0.7	1.1
Moisture absorption	ASTM D644	%	< 1	< 1

Characteristics	Test method	Unit	Value Thermovolt	Value Thermovolt
thickness	ASTM D645	mm	0.13	0.18
		mil	5.0	7.0
Base weight	ASTM D202	g/m <sup>2</sup>	156	195
Mechanical strength direction of travel	ASTM D828	N/mc	49	54
Mechanical strength transverse direction	ASTM D828	N/mc	25	28
Dielectric strength	ASTM D149	kV	2.6	3.1
Moisture absorption	ASTM D644	%	< 1	< 1

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Characteristics	Test method	Unit	Value	
			Thermovolt	Thermovolt
thickness	ASTM D645	mm mil	0.25 10.0	0.38 15.0
Base weight	ASTM D202	g/m <sup>2</sup>	274	366
Mechanical strength direction of travel	ASTM D828	N/mc	72	93
Mechanical strength transverse direction	ASTM D828	N/mc	39	60
Dielectric strength	ASTM D149	kV	3.3	5.0
Moisture absorption	ASTM D644	%	< 1	< 1

Characteristics	Test method	Unit	Value	
			Thermovolt	Thermovolt
thickness	ASTM D645	mm mil	0.51 20.0	
Base weight	ASTM D202	g/m <sup>2</sup>	561	
Mechanical strength direction of travel	ASTM D828	N/mc	175	
Mechanical strength transverse direction	ASTM D828	N/mc	102	
Dielectric strength	ASTM D149	kV	8.0	
Moisture absorption	ASTM D644	%	< 1	

3M™ TufQUIN TFT is RoHS and REACH compliant according to EC 1970/2006 .

**Brand information:** 3M™ Thermavolt is a registered trademark of 3M™ Co., USA.

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**Please note:**

The information in this technical data sheet is based on our current knowledge and experience. Because of the multitude of possible influences during use, they do not exempt the processor and user from carrying out their own tests and experiments. A legally binding assurance of certain properties or suitability for a specific purpose cannot be derived from our information. Depending on the individual case, we recommend consulting us. The recipient of our products is responsible for observing any protective rights and existing laws.

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