

FIBER & TAPE INSULATIONS

Insulation	Recommended Max. Operating Temperature	Advantages	Limitations
Cotton	105°C	<ol style="list-style-type: none"> 1. Low cost serving. 2. Good resistance to abrasion. 	<ol style="list-style-type: none"> 1. Poor space factor compared to Nylon or Celanese. 2. Non-solderable.
Nylon	155°C	<ol style="list-style-type: none"> 1. Good space factor. 2. Excellent abrasion resistance. 3. Solderable. 	<ol style="list-style-type: none"> 1. Hygroscopic
Dacron® (POLYESTER)	155°C	<ol style="list-style-type: none"> 1. Good abrasion resistance. 2. Solderable. 3. Slightly higher maximum operating temperature than nylon. 	<ol style="list-style-type: none"> 1. Better space factor than Cotton or Glass but poorer space factor than Nylon.
Nomex® (HI-TEMP Aramid)	250°C	<ol style="list-style-type: none"> 1. Good space factor. 2. Good electrical properties at high temperatures. 	<ol style="list-style-type: none"> 1. Non-solderable. 2. Higher cost than other fibers.
Glass	260°C	<ol style="list-style-type: none"> 1. Good electrical properties at high temperatures. 	<ol style="list-style-type: none"> 1. Space factor equivalent to Cotton. 2. Non-solderable.

Tape Insulation	Recommended Max. Use Temperature	Characteristics
Polyester (PET) Mylar® (heat sealable grades available)	135° C	<ol style="list-style-type: none"> 1. High dielectric strength. 2. Good abrasion often used as binder or moisture barrier under extruded jackets and textile serves or braids.
Nomex® (aromatic polyamide)	200° C (Up to 220° C under certain conditions.)	<ol style="list-style-type: none"> 1. Excellent thermal properties. 2. Excellent electrical properties. 3. Excellent compatibility with varnishes, adhesives and transformer fluids. 4. Thinner grades are flexible. 5. Good resistance to tearing and abrasion.
Polyimide Kapton® (Heat sealable & adhesive grades available)	240° C (Up to 400° C under certain conditions.)	<ol style="list-style-type: none"> 1. Very high dielectric strength. 2. Very good chemical resistance. 3. UL 94 V-0 flame rating. 4. Excellent mechanical properties.
Fiberglass Cloth	Ultimate operating temperature determined by application & glass type.	<ol style="list-style-type: none"> 1. Excellent electrical properties at high temperatures. 2. Conformable. 3. Varnish compatible grades available. 4. Excellent solvent resistance.
Mica	Ultimate operating temperature determined by application & glass type.	<ol style="list-style-type: none"> 1. Excellent electrical properties at high temperatures. 2. Flame resistant. 3. Retains useful electrical properties during & after exposure to fire.

NOTE: Dacron®, Nomex®, Mylar® and Kapton® are DuPont Registered Trademarks.

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