

AQUEOUS DISPERSION PTFE

PROCESSING GUIDE

IMPREGNATION OF GLASS FABRIC

- First INOFLON® Aqueous dispersion PTFE should be gently stirred by an agitator for 30 min or drums should be rolled before passing through a 100 micron nylon fabric filter prior to use. Please read our Material handling and storage guide for more information.
- Impregnation of glass cloth contains 5-60% PTFE by weight based on finished product requirement.
- INOFLON® Aqueous dispersion PTFE contains approximately 60% of PTFE and it can be further diluted by the addition of DM/DI or distilled water on Rolling Mixer at 300-350 RPM for few minutes followed by 2 hrs at 200 RPM.
- In next step, it should be loaded to dip tank where temperature should be maintained at 20-25°C before beginning to coat the glass cloth.
- Pass the glass fabric from the dip tank. The coating speed is limited by some practical parameter such as the rate of return of excess dispersion to the dip tank, foam formation in the dispersion and oven length and capacity.
- Typical process conditions for dispersions containing 5-60% PTFE are shown in Table 1. Glass fabric must reach the temperatures shown.

Drying: Water is removed in the drying zone. Dry the impregnated glass fabric at 90-100°C (194-212°F) and the drying time for a particular type of glass fabric is best ascertained by drying to constant weight.

Baking: The surfactant is removed in the baking zone. Bake the dried impregnated glass fabric at 230-250°C (446-482°F). The process is necessary to assist removal of the surfactant, although the glass fabric must be withstand above 250°C (482°F).

Sintering: Sinter the impregnated glass fabric at 380-400°C (716-752°F) to produce PTFE layer and rigid product as opposed to increasing the sintering temperature due to the reduction in the mechanical properties of glass fabric.

AQUEOUS DISPERSION PTFE

Table 1- Process condition for Impregnation of Glass fabric

Number Of Passes	Dispersion Concentration (% PTFE)	Glass Fabric Speed (m/min)	Oven Temperature (°C)		
			Drying	Baking	Sintering
Depends on PTFE concentration requirement	5-60	1-2	90-100	230-250	380-400

CALENDARING

The additional benefits of this process to flattening the fabric and tucking in the broken glass filaments in the coating. Broken filaments create defect point and wick moisture into the glass fabric which may affect its electrical properties.

- Annealing chamber is compulsory to prevent the coated glass from cooling too rapidly to avoid wetting difficulty during the second pass coating
- The thickness and quality of the final coating, the type of glass fabric and the formulation will determine the number of passes that must be made.
- Finally, it is vitally important to exhaust the fumes of the baking and sintering oven from working area to atmosphere.

The information in this processing guideline is believed to be correct to the best of our knowledge and information. It is subject to revision depending on the additional knowledge gained by us with the time. The information provided in this processing guideline should be treated as guidance and not to be considered as warranties or quality specification

SALES AND TECHNICAL SUPPORT

Corporate & Marketing Headquarter

INOX Towers, 17 , Sector-16A,
Noida - 201301 U.P., India
+91 120 6149600

Europe

Regus Center Watermark 14th Floor,
Überseeallee 10, 20457 Hamburg, Germany
+49 40 808074-667/668

Works

12/A Dahej, GIDC, Industrial Estate,
Tehsil Vagra, Dist. Bharuch 392130, Gujarat, India
+91 2641 618003

Americas

1212 Corporate Dr., Suite-540,
Irving, TX 75038, USA
+1 512 446 7700

