Polytrope® STR Enhanced Polyolefins

Adhesives, Sealants & Tapes

for Bonding Polytrope® STR

Polytrope® STR resins are based on enhanced polyolefin compositions that have been specifically designed to provide high performance for sheet and profile extrusion and thermoforming applications. *Polytrope® STR* resins can be categorized within the thermoplastic polyolefin (TPO) family of polymers. As such, adhesives, sealants and tapes commonly associated for application with TPO can be used for *Polytrope® STR* resins. The information provided herein should be verified with your vendor of adhesives, sealants or tapes and validated in part application testing. Application requirements must be considered to ensure selection of the best suited bonding system and achievement of the desired bond performance. The type of bond, mating surface, mating materials, environmental exposure, and type of load stress are important to consider in selecting the proper adhesive system. The typical bonding system for *Polytrope® STR* TPO consists of surface preparation, surface cleaner, adhesion promoter or primer, and the bonding material.

Surface Preparation

It is beneficial and sometimes necessary to roughen the bonding surface to yield the best performing bond, especially when the mating surfaces are smooth. This can normally be accomplished with sand paper or a wire wheel. Follow the recommendations of your bonding system supplier.

Surface Cleaner

It is important that the bonding surface is clean of any grease, oily films and residue in order to achieve a cohesive bond. Depending on the bonding system used, this will be accomplished by various methods. Consult with your bonding supplier for their recommended cleaner or cleaning method.

Adhesion Promoter

TPO's are low surface energy materials, therefore, surface treatment through the use of an adhesion promoter is normally required prior to application of the adhesive, sealant or tape. Types include waterborne and solventborne adhesion promoters which can be sprayed, rolled, or wiped. Non-solvent air atomized adhesion resin promoters. Non-chemical methods such as plasma, corona, or flame treatment. All have been very successful in raising the surface energy of TPO to accept bonding materials. Some newer adhesive systems are available that are low surface energy bondable, so the adhesion promoter is not required. As with all adhesive systems, it is important to validate the effectiveness of the bonding system for the application requirements.

Bonding Material

Bonding materials are supplied in single and two component liquids and pastes that may be sprayed, rolled, brushed, and wiped on with applicator sponges, liquids and caulks applied in adhesive beads, and double-sided tapes applied with pressure rolls. Many of these can be applied manually or by robotics.

Sourcing

Chemical Type Adhesion Promoters and Bonding Adhesives:

- 3M - ScotchWeld DP8005 and ScotchWeld DP8010: (248) 895-8243
- Lord -7545 2-Component Urethane with Chemlock 459X Primer: (248) 489-5800
- Henkel/Loctite - 3030 Polyolefin Bonder: (734) 459-1945
- Rohm & Haas - Mor-Ad 5003 with Corona Treatment: (905) 814-4577
- Sunstar – Waterborne - Penguin Bond 1914 with Penguin Primer PP-5U: (937) 746-8575

Corona and Plasma Adhesion Promoters:

- Enercon Industries Corp.: (262) 255-6070
- Electro-Technic Products, Inc: (773) 561-2349
- Lectro-Treat Engineering: (314) 567-3100

Flame Treatment Adhesion Promoter:

- TS Automation, Inc.: (517) 545-2349

Double Sided Adhesive and Foam Tapes:

- 3M - VHB Tape 4941 or 5952 with Primer 94 or 4298: (248) 895-8243
- Avery Dennison, XHA 9845: (440) 358-2600
- GPI - 2978 S00 60 Acrylic adhesive and 2577 Acrylic foam tape: www.gpi-adhesif.com

Non Structural Water Proofing Sealants:

- Schnee-Morehead - Acryl R SM5504 and Acryl R SM2100: 1-800-878-7876