



## How to Bond TPO

Thermoplastic Polyolefins

GLOBAL THERMOPLASTIC SOLUTIONS

## Introductions

TPOs are modified polyolefins specially engineered for thermoforming applications. They offer a unique balance of stiffness, thermal expansion, impact and chemical resistance. Depending on materials used, thermoforming applications often require a bonding agent for sufficient adhesion. Traditionally, TPOs accept multiple bonding methods with application of surface pre-treatment or adhesion promoters.

Bonding two distinctly different materials requires either a robust liquid adhesive or a pressure-sensitive tape as opposed to other bonding alternatives. Tapes are the more popular choice, as they offer superior performance for thermal expansion variations.

SIMONA PMC does offer a new product line, Ontex, which allows for direct adhesion of a TPO substrate without pre-treatment. Contact your SIMONA PMC representative for more information on this system.

## Bonding Basics

**Common options for bonding in plastics includes:**

- Rivets
  - “Christmas Trees”
  - Liquid Adhesives
    - 3M ScotchWeld DP8005 or DP8010
    - FLEXcon FLEXmount V-778
    - Hylomar GF Acrylic
    - Loctite 3030, 3032 Polyolefin Bonder, LSE (low surface energy) 3035
  - Pressure Sensitive Tapes
    - 3M VHB Tape (491, 4952, or 5952) with Primer 94
    - Adchem
    - Duraco high bond
  - Heat Staking
  - Sonic Welding
  - Vibration Welding
- Surface pre-treatment is often necessary for low surface energy materials including: TPO, PP, PE, Nylon, etc. There are generally two methods of surface treatment:



### 1. Application of and Adhesion Promotor (sprayed, rolled or wiped on)

- 3M
- Henkel (Loctite)
- PPG Industries



### 2. Corona or Flame Treatment (hand or automatically applied)

- Electro-Technic Products, Inc.
- TS Automation, Inc.
- Lectro-Treat Engineering
- Enercon
- Corotec



*The information provided is for general use and should be verified with your particular adhesive vendor. Specific application requirement must be considered individually to ensure bonding performance.*



## CUSTOM EXTRUSION SOLUTIONS

TPO | ABS | Acrylic | ASA | PC/ABS | Soft-touch

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