B-TBO
Bundle Over Wrap Heat Sealable Film

B-TBO is a both side heat sealable with one side functionally modified & other side treated for bundle over wrap.

**THE BIG DIFFERENTIATORS**

- **Good Hot Slip**
  Enhanced jaw release to increase overwrap speed.

- **Optimum Stiffness**
  Improved runnability.

- **Optimized Seal Functionality**
  High performance at high speed.

- **Fine Optics**
  Aesthetically appealing look.

- **Good Antistatic & Slip**
  High performance on over wrap m/c with minimal wastage.

**KEY FEATURES:**
- Good optics
- Controlled slip & antistatic
- Good hot slip
- Good stiffness
- Excellent machinability

**APPLICATIONS:**
- Bundle over wrap of cosmetic, personal care & perfume carton boxes
## TECHNICAL DATA SHEET

### PROPERTIES | TEST METHOD (ASTM) | UNIT | TYPICAL VALUES
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THICKNESS | Internal | Micron | 30 35 40 45 50
 |  | (Gauge) | 120 140 160 180 200
FILM DENSITY | D-1505 | gm/cc | 0.91
GRAMMAGE | Internal | gm/m² | 27.3 31.8 36.4 40.9 45.5
YIELD | Internal | m²/kg | 36.6 31.4 27.5 24.4 22.0
 |  | in²/lb | 25730 22074 19332 17153 15446
TREATMENT LEVEL | D-2578 | dyne/cm | 38
COEFF OF FRICTION (UTR/UTR) | Dynamic | D-1894 | - 0.30±0.05
HAZE | D-1003 | % | 1.7 1.7 2.0 2.2 2.5
GLOSS (at 45°) | D-2657 | Unit | 85 85 83 82 80
TENSILE STRENGTH AT BREAK | MD* | kg/cm² | 1250
 | TD* | (kPsi) | 2500
 | MD* | 17.8
 | TD* | 35.5
ELONGATION AT BREAK | MD* | D-882 | % | 200
 | TD* | 60
LINEAR SHRINKAGE (max) (5 Minutes at 130°C) | MD* | D-1204 | % | 6.0
 | TD* | 3.0
HEAT SEAL INITIATION TEMPERATURE | Internal | °C | 105
HEAT SEAL STRENGTH | (Min.) | Internal | gm/25mm | 425 425 450 450 475
WATER VAPOUR TRANSMISSION RATE (38°C & 90% RH) | F-1249 | gm/m²/day | 5.7 5.5 5.0 4.7 4.5
 | | (gm/100 in²/day) | 0.37 0.35 0.32 0.30 0.29
OXYGEN TRANSMISSION RATE (23°C & 0% RH) | D-3985 | cc/m²/day | 1600 1500 1300 1200 1200
 | | (cc/100 in²/day) | 103 97 84 77 77

Ref no QAD UFLI S/14 – B 16/3

*MD = MACHINE DIRECTION *TD = TRANSVERSE DIRECTION

### STORAGE & HANDLING

FLEXOP™ does not require special storage conditions. It is recommended to storage below 30°C in order to avoid any deterioration of the film surface properties. It is advisable to use the material on FIFO basis. The film should be kept at operating environment for 24 hours before processing. FLEXOP™ is best suitable for use within 6 months from date of dispatch.

### FOOD CONTACT

FLEXOP™ complies with EC and FDA regulations. Specific document and MSDS are available on request.

### DISCLAIMER

It is the responsibility of our customers to determine that their use of our products is safe, lawful, and technically suitable in their intended applications. The technical data sheets are provided for discussion purposes only. The customer may not rely on the data provided for any manufacturing purpose. The values provided in the technical data sheet represent typical values based on the best of our knowledge as of the date when the data was compiled. The data is offered solely to provide possible suggestions for your own experimentation and not as a guarantee for the material supplied. The user is solely responsible for the end use of the product and needs to perform their own tests to confirm the product suitability/compatibility in all respects. Flex provides no warranty and accepts no liability for any loss or fitness of the product for any specific purpose based on the information contained in the technical data sheets. Flex reserves the right to change the technical data sheet at any time without prior notice.

**TDS issued on 01-04-2020. All previous version of this grade are invalid.**