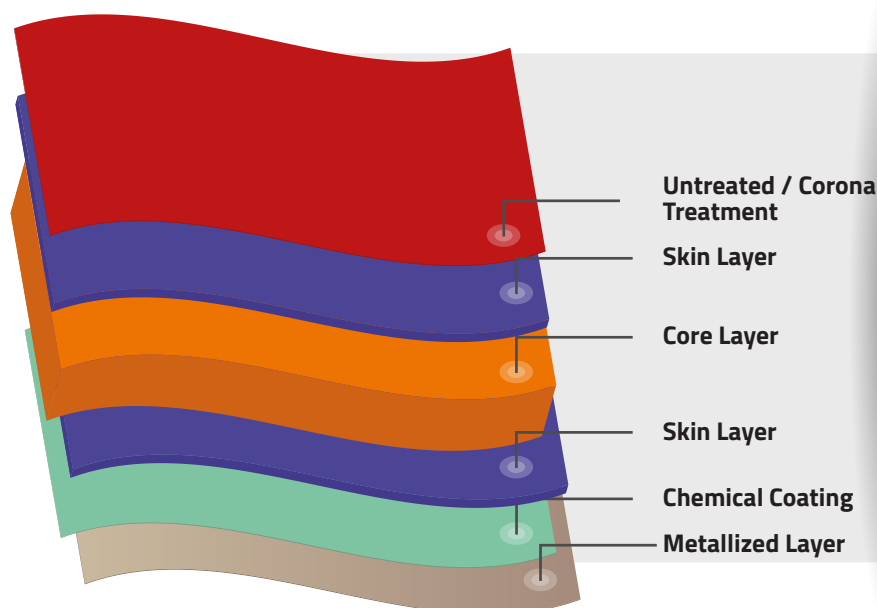


F-CCH-M, F-CHE-M, F-CHC-M, F-CLR-C1-M, F-CLR-C2-M, F-XLR-C1-M, F-XLR-C2-M

METALLIZED CHEMICAL COATED FILMS

Metallized Chemical Coated Films are BOPET films with one side Chemical Coated and the other side Untreated or Corona Treated. The films have superior gloss when metallized on optically clear base film, and further improved gloss when metallized on extra clear base film (see grades table). These films are available in optical densities ranging from 1.4 to 3.0; this wide range gives options to the customer to use the product for a diverse range of applications. The metallization is available on the Untreated surface (MU), the Corona Treated surface (MT), or the Chemical Coated surface (MC) as specified by the customer. The bond between the metal & film is a minimum of 100 gm/25mm when metallized on the Untreated surface, a minimum of 130 gm/25mm when metallized on the Corona Treated surface, or a minimum of 500 gm/25mm when metallized on the Chemical Coated surface. These films are not recommended for laminates undergoing high temperature applications such as boiling, pasteurization, sterilization, retort, hot oven, or microwave.



FILM STRUCTURE

KEY FEATURES:

- Excellent gloss
- Good barrier properties
- Excellent machinability & handling properties
- Excellent metal bond strength when metallized on the chemical surface
- Not suitable for hot fill, sterilization or pasteurization

APPLICATION:

- Flexible Packaging
- Lamination
- Decorative applications

| FLEXMETPROTECT™ GRADE | | BASE FILM | ONE SURFACE | OTHER SURFACE | METALIZATION SIDE | | | | | | | | | | |
|--|--|-----------------|---|--|--|-------|-----------------|-------|-------|-------------|-------|-------|-------|-------|--|
| F-CCH-M | | STANDARD | CORONA | CHEMICAL COATING | Metallization will be on either the Untreated, Corona Treated, or Chemical Coated side. TO BE SPECIFIED BY THE CUSTOMER. | | | | | | | | | | |
| F-CHE-M | | STANDARD | PLAIN | CHEMICAL COATING | | | | | | | | | | | |
| F-CHC-M | | STANDARD | CORONA | CHEMICAL COATING | | | | | | | | | | | |
| F-CLR-C1-M | | OPTICALLY CLEAR | CORONA | CHEMICAL COATING | | | | | | | | | | | |
| F-CLR-C2-M | | OPTICALLY CLEAR | PLAIN | CHEMICAL COATING | | | | | | | | | | | |
| F-XLR-C1-M | | EXTRA CLEAR | CORONA | CHEMICAL COATING | | | | | | | | | | | |
| F-XLR-C2-M | | EXTRA CLEAR | PLAIN | CHEMICAL COATING | | | | | | | | | | | |
| PROPERTIES | | TEST METHOD | UNIT | TYPICAL VALUES | | | | | | | | | | | |
| OPTICAL DENSITY*** (TOLERANCE: +/- 5%) (***Customer to specify the OD value as per their specification.) | | | | Standard Density (SD) 2.2 - Barrier Packaging Application High Density (HD) 2.5 - High Barrier Application Very High Density (VHD) 2.8 - Special Application | | | | | | | | | | | |
| THICKNESS | | Internal | Micron | 8 | 9 | 10 | 12 | 15 | 19 | 21 | 23 | 36 | 50 | | |
| | | | (Gauge) | 32 | 36 | 40 | 48 | 60 | 76 | 84 | 92 | 144 | 200 | | |
| YIELD | | Internal | m ² / kg | 89.28 | 79.36 | 71.42 | 59.52 | 47.62 | 37.59 | 34.01 | 31.05 | 19.84 | 14.28 | | |
| | | | in ² /lb | 62901 | 55912 | 50318 | 41934 | 33550 | 26483 | 23951 | 21876 | 13978 | 10060 | | |
| SURFACE TENSION (min) # ★ (Chemical Coated surface) (Corona surface) | | ASTM D-2578 | dyne/cm | 60 | | | | | | | | | | | |
| | | | | 52 | | | | | | | | | | | |
| COF (max) (One side to the other side) | | ASTM D-1894 | - | 0.70 | | | | | | | | | | | |
| TENSILE STRENGTH AT BREAK (min) | | ASTM D-882 | kg/cm ² | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1750 | 1750 | | |
| | | | | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 | |
| | | | (Psi) | 27000 | 27000 | 27000 | 27000 | 27000 | 27000 | 27000 | 27000 | 27000 | 25000 | 25000 | |
| | | | | 28500 | 28500 | 28500 | 28500 | 28500 | 28500 | 28500 | 28500 | 28500 | 28500 | 28500 | |
| ELONGATION AT BREAK (min) | | ASTM D-882 | % | 90 | 90 | 100 | 105 | 105 | 110 | 110 | 115 | 120 | 125 | | |
| | | | | 80 | 80 | 80 | 85 | 85 | 85 | 85 | 90 | 90 | 95 | | |
| LINEAR SHRINKAGE (max) (30 Minute at 105°C) | | ASTM D-1204 | % | 1.5 | | | | | | | | | | | |
| | | | | 0.6 | | | | | | | | | | | |
| GLOSS (min) (Metallized surface) (Bare surface) | | ASTM D-2578 | - | STANDARD | | | OPTICALLY CLEAR | | | EXTRA CLEAR | | | | | |
| | | | | 800 | | | 820 | | | 850 | | | | | |
| | | | | 600 | | | 700 | | | 750 | | | | | |
| MVTR (38°C & 90% RH) (typical) | | ASTM F-1249 | gm/m ² /day (gm/100 in ² /day) | SD | | | HD | | | VHD | | | | | |
| | | | | 1.0 | | | 0.6 | | | 0.4 | | | | | |
| OTR (23°C & 0% RH) (typical) | | ASTM D-3985 | cc/m ² /day (cc/100 in ² /day) | 1.1 | | | 1.0 | | | 0.8 | | | | | |
| | | | | 0.07 | | | 0.06 | | | 0.05 | | | | | |

★ This dyne value is applicable only for NAFTA, SA, and Poland manufacturing plants.
The inherent surface tension of the untreated side of any PET film is a minimum of 42 dyne/cm.

STORAGE & HANDLING

FLEXMETPROTECT™ needs to be stored in a warehouse below 35°C (95°F) and should not be exposed to direct sunlight, bright light sources, or high humidity. If the material is stored in the recommended conditions, FLEXMETPROTECT™ is suitable for use within 180 days from the date of shipment.

FOOD CONTACT

FLEXMETPROTECT™ complies with EU and FDA regulations on plastic materials used for food grade application. Specific documents and SDS are available on request.

DISCLAIMER

It is the responsibility of our customer 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.