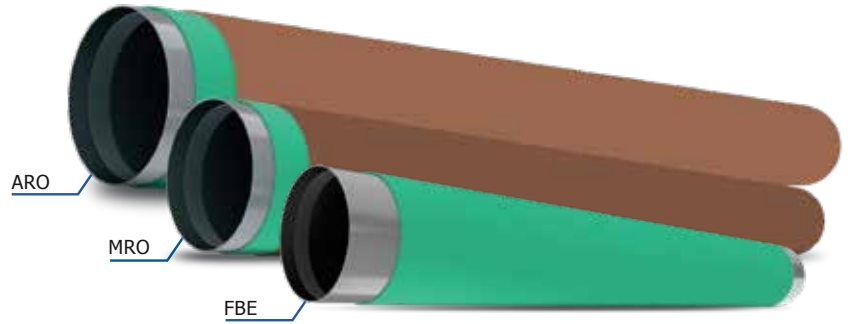


# ULTRABOND FBE

PERMA-BOND™ ANTI-CORROSION PIPE COATING



*Ultradbond FBE  
MRO Moisture Topcoat + Ultradbond FBE  
ARO Abrasion Topcoat + Ultradbond FBE*

## Temperature Range

- 1A (FBE):  
-73 °C (-99 °F) up to 110 °C (230 °F)
- 2A (MRO):  
-73 °C (-99 °F) up to 150 °C (230 °F)  
depending on base coat used.
- 2B (ARO):  
-73 °C (-99 °F) up to 110 °C (230 °F)

## Pipe Sizes

NPS 3 - 60 (88.9 - 1524 mm)  
up to 80 ft (24 m) lengths

## Minimum Layer Thicknesses (Full System)

- 1A (FBE): 305 µm (12 mils)
- 2A (MRO): 762 µm (30 mils)
- 2B (ARO): 762 µm (30 mils, 40 mils)

## Options

- Bespoke thicknesses available
- UV Protective Topcoat (FBP)
- Anti-Slip Topcoat  
(applied over System 1A, 2A, or 2B)

## Sales Contacts

Rely on PERMA-PIPE to help provide the right anti-corrosion or insulating coating solutions for your project.

Please contact our Canadian sales office directly at (403) 264-4880 or [askpermapipe@permapipe.com](mailto:askpermapipe@permapipe.com)

**ULTRABOND FBE** is a single layer fusion bonded epoxy (FBE) with optional dual layer abrasion resistant overcoat (ARO) or moisture resistant overcoat (MRO) external pipe coatings, providing corrosion protection, chemical and soil stress resistance as well as excellent adhesion and cathodic disbondment protection. This design is for all types of pipelines, including severe environments.

## Technical Parameters

PROPERTY	CONDITIONS	TYPICAL VALUES*
Cathodic Disbondment	28 days @ 1.5 V @ 20 °C (68 °F) 24 hr @ 3.5 V @ 65 °C (149 °F)	≤ 4 mm (0.16 in) ≤ 3 mm (0.12 in)
Flexibility (FBE) (FBE w/ Optional Topcoat)	2.5° / PD @ -30 °C (-22 °F) 1.5° / PD @ -30 °C (-22 °F)	No Cracking No Cracking
Impact Resistance (FBE w/ Optional Topcoat)	-30 °C (-22 °F)	≥ 1.5 J (1.11 lbf ft) No Holidays ≥ 3.0 J (2.21 lbf ft) No Holidays
Adhesion	24 hr @ 75 °C (167 °F)	Rating of 1 - 2

### Notes

\*Typical values meet or exceed regulatory requirements and are based on historical data, not to be interpreted as product specification.

\*\*CSA Z245.20-22 Systems 1A, 2A, 2B, 2C & 3.

