

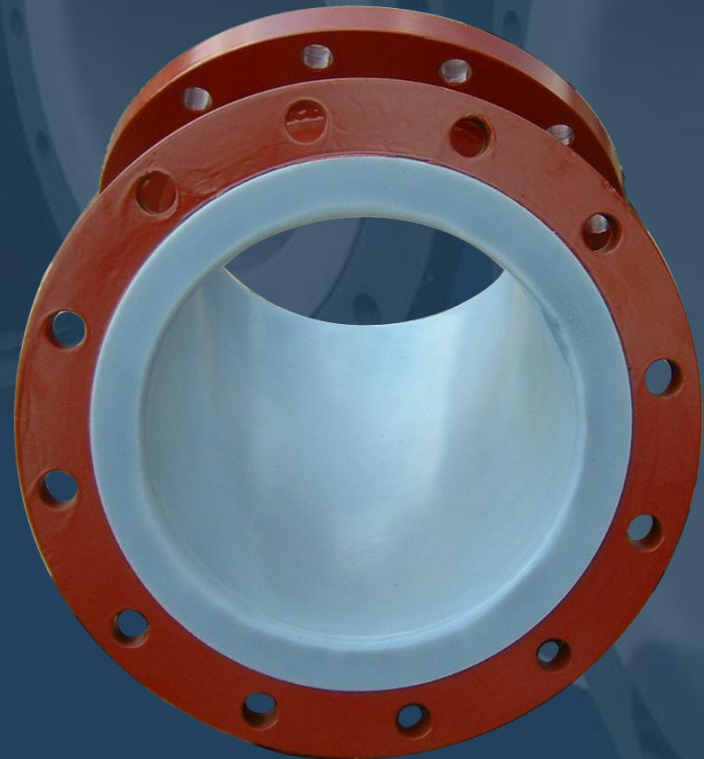
Rotolining Main Purpose

Combining the unique properties of the fluoropolymers family with the rotational molding/ lining process, enable MB Plastics Europe BV to line virtually any vessel, tank, fittings for outstanding corrosion resistance applications. This process stretches the boundaries of corrosion resistance service to our customers with the following:

Seamless lining:

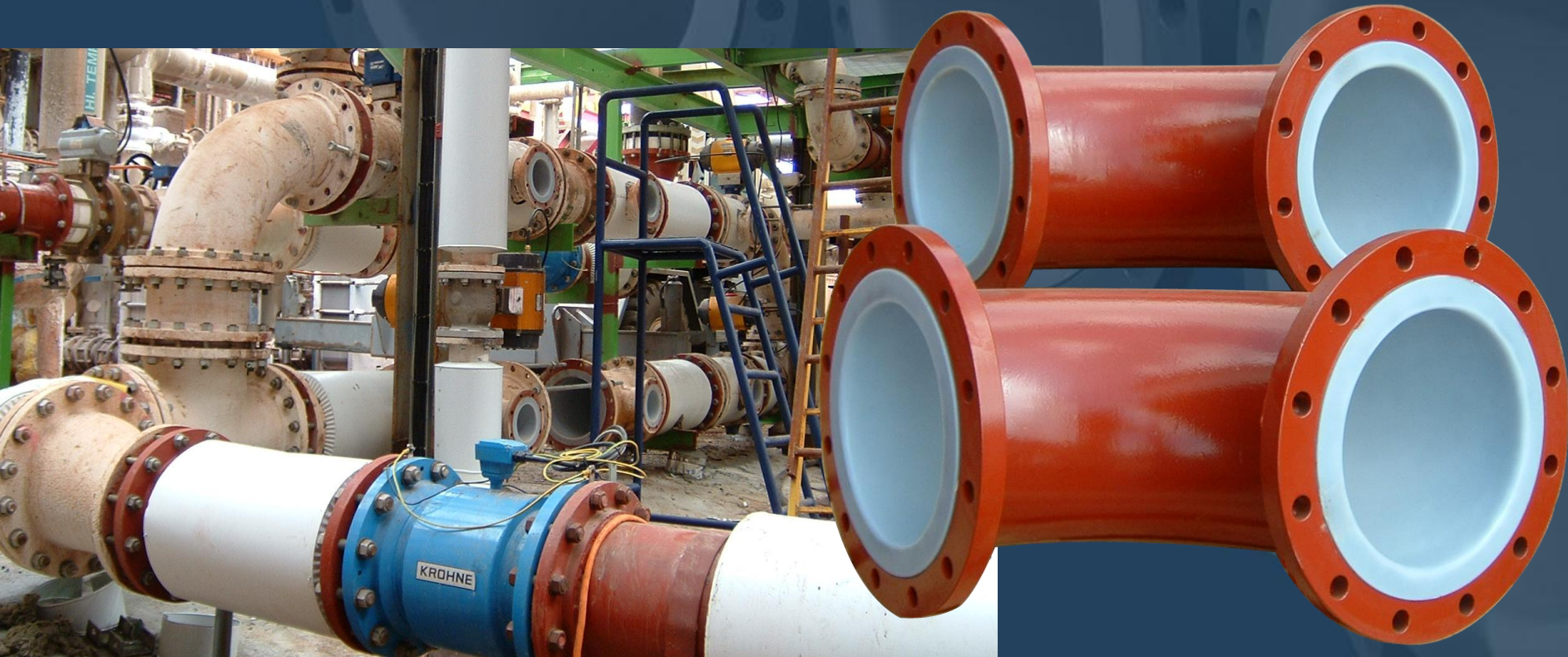
The lining is free from any kind of welds or seams, a significant benefit over other lining techniques. There are no 'weak spot' in the lining which means:

- Longer service life.
- less permeation.
- trouble free maintenance.



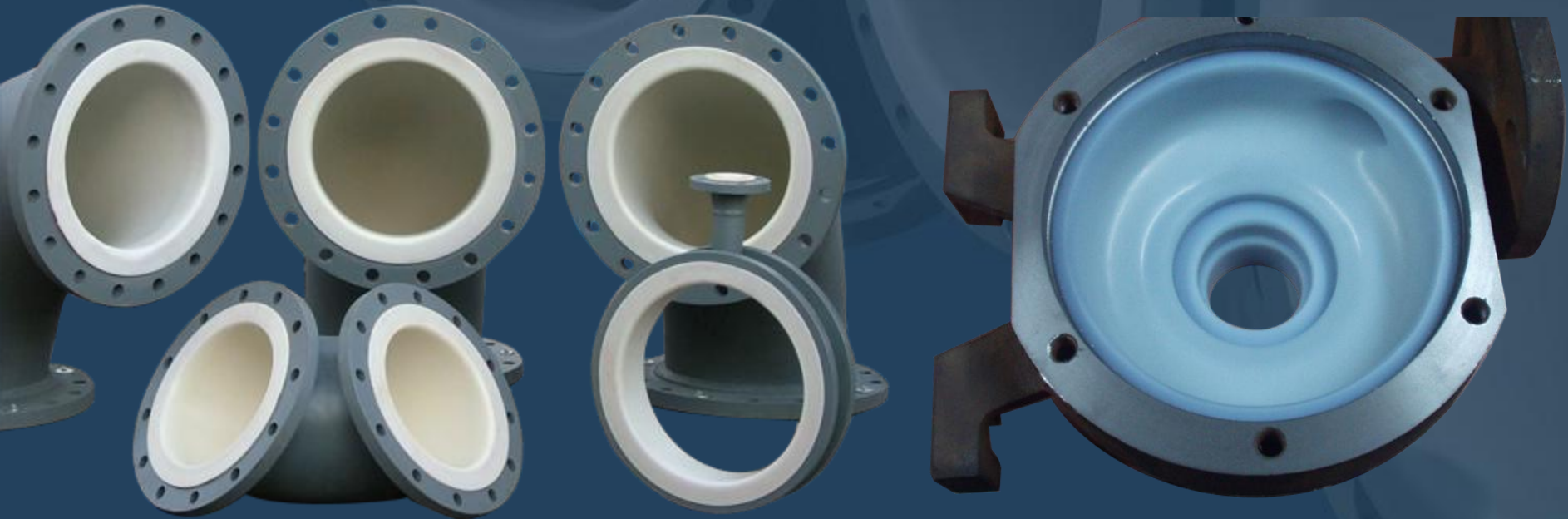
Heavy wall lining

The lining thickness is ranging from 2mm (0.07 in) up to 12.5mm (0.5 in) providing much lower permeation rate and higher mechanical strength.



Pressure and thermal resistance

MB Plastics rotational lining process bonds the fluor-polymer to the metal substrate enable to resist full vacuum conditions in elevated temperatures such as 230 Deg C for PFA, 190 for MFA, 150 for ETFE/ECTFE and 100 for PVDF.



Unlimited product design

Our engineering and metal fabrication departments can front even your most individual requests related to shape and size of a fittings, vessels and tanks.

There are no limitations for nozzles design, end covers, radiuses.



Main key products:

- Columns
- Vessels
- Tanks
- Reactors
- Vessels and tanks for High purity industry
- Fittings
- Pump housings
- Flow meters



Lining materials:

Polymer	Thicknesses	Max working Temperature	Vacuum resistance	Metal substrate	Cost
PFA	2 – 8 mm	240°C	√	carbon steel, copper, SS*, titanium, glass	Highest
MFA	2 – 8 mm	200°C	×	carbon steel, copper, SS, titanium,	Highest
ETFE	2 – 10 mm	170°C*	√	No limitation	medium
ECTFE	2 – 10 mm	140°C	√	No limitation	Highest
PVDF	2 – 10 mm	100°C	√	No limitation	low
PP	2 – 14 mm	66°C	×	No limitation	lowest
PE	2 – 14 mm	60°C	×	No limitation	lowest

Polymer designation

PFA - Extreme corrosion, Elevated temperatures, High purity (semi-conductor)

MFA - Extreme corrosion, Elevated temperatures, smooth surface

ETFE - High corrosion, medium temperatures, smooth surface, mechanical strength

ECTFE - High corrosion, medium temperatures, smooth surface, mechanical strength

PVDF - medium corrosion, low temperatures, mechanical strength

PP - low corrosion, lowest temperatures, mechanical strength, abrasion resistance

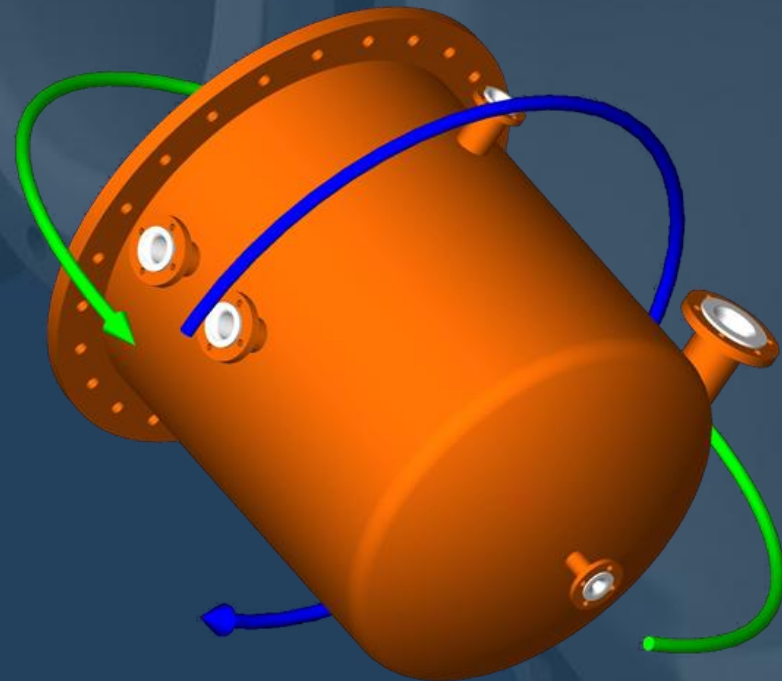
PE (XLPE) - low corrosion, higher temperatures than other PE grades, mechanical strength, extreme abrasion resistance.

PE (LDPE & HDPE) - low corrosion, lowest temperatures,

Description of the process

Unlike Rotational molding process, the Rotational lining process uses the metal segment as the mold and the final product is a metal structure with inner lining as one piece. Each material requires different preparation procedure and different processing when properly prepared; a rotolined part will have excellent plastic to metal adhesion. Full vacuum service at elevated temperatures is possible.

1. Metal Preparation: machining and cleaning the metal to achieve free flow surface.
2. Loading: assembling the metal item on the machine and charging the polymer.
3. Cycling: the mold start to cycle in an accurate ratio with the oven temperatures and time.
4. Cooling: the mold starts to cool down in a proper manner suitable to the polymer and the wall thickness.



5. Machining: flaring faces are machined for proper sealing.
6. Quality Checks: every product is checked with spark test, wall thickness, Technical tolerance and water pressure test.



Benefits Of Rotolining:

- Ability to line a complex shapes
- Lining with no weld and shims
- Homogenous thickness
- Thick material build up
- Working in elevated temperatures
- Vacuum resistance
- Broad array of materials
- Machine made process
- Fast processing time
- Cost effectiveness

