



# O Ring Compatibility Chart

Tectite and XPress fittings use the same O Ring technology to provide the best and widest range of heat free jointing. It is important to check compatibility between the O Ring and the fluid in the system. The table below is a guide for the Contractor, Installer and Specifier, and shows the compatibility of three O Ring materials with common fluid types and some gases.

**EPDM - Ethylene Propylene Diene Monomer** - This is the standard, **BLACK** O Ring that is used in Tectite and XPress COPPER ranges. This material is also used for the *Leak before Press* O Rings used in XPress CARBON and XPress STAINLESS STEEL

**HNBR - Hydrogenated Nitrile Rubber** - This is the **YELLOW** O Ring that is only used in XPress GAS

**FPM - Fluorocarbon Rubber** - This is the **GREEN** O Ring that is only used in XPress Solar

Designation	Black	Yellow	Green
	EPDM Tectite/XPress	HNBR Gas	FPM Solar
Maximum service temperature °C	180	100	230
Low service temperature °C	-50	-20	-20
<b>Water/Steam Resistance</b>			
Water/Steam resistance <40°C	✓✓✓	✓✓✓	✓✓✓
Water/Steam resistance <80°C	✓✓✓	✓✓	✓✓✓
Water/Steam resistance <150°C	✓✓	X	*✓✓
Water/Steam resistance >150°C	✓	X	*✓✓

Designation	Black	Yellow	Green
	EPDM Tectite/XPress	HNBR Gas	FPM Solar
<b>Fluids Resistance</b>			
<b>Acid</b>			
Acetic 10%	✓✓✓	✓	✓
Formic	✓✓✓	X	✓
Hydrochloric 20%	✓✓✓	✓	✓✓
Nitric 30%	✓✓✓	X	✓✓
Phosphoric 20%	✓✓✓	✓	✓✓✓
Sulphuric 30%	✓✓	X	✓✓
<b>Alkalis</b>			
Barium hydroxide	✓✓✓	✓✓	✓✓✓
Calcium hydroxide	✓✓✓	✓✓	✓✓✓
Sodium hydroxide	✓✓✓	✓✓	✓✓
<b>Alcohols</b>			
Butyl alcohol (Butanol)	✓✓	✓✓✓	✓✓✓
Ethyl alcohol (Ethanol)	✓✓✓	✓✓	✓✓
Methyl alcohol (Methanol)	✓✓✓	✓✓✓	X
<b>Amines</b>			
Ethylene diamine	✓✓✓	✓✓	X
Ammonia – cold gas	✓✓✓	✓✓✓	X
Ammonia – hot gas	✓✓	X	X
<b>Chlorides</b>			
Ammonium chloride	✓✓✓	✓✓✓	✓✓✓
Calcium chloride solution	✓✓✓	✓✓✓	✓✓✓
Magnesium chloride	✓✓✓	✓✓✓	✓✓✓
Zinc chloride	✓✓✓	✓✓✓	✓✓✓
<b>Gases</b>			
Butane	X	✓✓✓	✓✓✓
Carbon dioxide (dry)	✓✓	✓✓✓	✓✓✓
Chloride (wet)	✓	X	✓✓✓
Freon 12	✓✓	✓✓✓	✓✓
Freon 21	X	X	X
Freon 22	✓✓✓	X	X
Freon 134a	✓✓✓	•	X
Natural gas	X	✓✓✓	✓✓✓
Methane	X	✓✓✓	✓✓✓
Propane	X	✓✓✓	✓✓✓
<b>Oils and Fuels</b>			
ASTM No 1 oil	X	✓✓✓	✓✓✓
ASTM No 2 oil	X	✓✓✓	✓✓✓
ASTM No 3 oil	X	✓✓✓	✓✓✓
ASTM fuel A	X	✓✓✓	✓✓✓
ASTM fuel B	X	✓✓	✓✓✓
ASTM fuel C	X	✓	✓✓✓
Diesel oil	X	✓✓✓	✓✓✓
Diesel oil + RME (10%)	X	X	✓✓✓
Mineral oil (low aromatic)	X	✓✓✓	✓✓✓

Designation	Black	Yellow	Green
	EPDM Tectite/XPress	HNBR Gas	FPM Solar
<b>Oils and Fuels cont</b>			
Hydraulic oils (petroleum base)	X	✓✓✓	✓✓✓
Lubricating oils	X	✓✓✓	✓✓✓
Paraffin	X	✓✓✓	✓✓✓
Petrol	X	✓✓✓	✓✓✓
Silicone oil/grease	✓✓✓	✓✓✓	✓✓✓
Transformer oils	X	✓✓✓	✓✓✓
Vegetable oils	✓	✓✓✓	✓✓✓
<b>Solvents</b>			
Acetone	✓✓✓	X	X
Benzene	X	X	✓✓✓
Carbon tetrachloride	X	✓	✓✓✓
Dimethyl formamide	✓✓	✓	X
Ethyl acetate	✓✓	X	X
Methyl ethyl ketone	✓✓✓	X	X
Tetrachloroethylene	X	X	✓✓✓
Toluene	X	X	✓✓✓
Turpentine	X	✓✓✓	✓✓✓
Xylene	X	X	✓✓
<b>Miscellaneous</b>			
Ethylene glycol	✓✓✓	✓✓✓	✓✓✓
Detergents	✓✓✓	✓✓✓	✓✓✓
Diocetyl phthalate	✓✓	X	X
Formaldehyde	✓✓✓	✓	X
Hydrogen peroxide (90%)	✓✓	X	✓✓
Phosphate esters	✓✓✓	X	✓
Potassium nitrate	✓✓✓	✓✓✓	✓✓✓

Key to Media Table	
✓✓✓	<b>Excellent</b> – Recommended
✓✓	<b>Good</b> – Minor to Moderate effects
✓	<b>Fair</b> – Moderate to severe effects
X	<b>Poor</b> – Not recommended
•	Insufficient data available
* Conditions Apply	Temperature or other limitation affecting polymer choice

These tables refer to room temperature tests. For other conditions and additional media advices please refer to Pegler Yorkshire for advice.