

ACO Pipe® Seal Material Data



ACO Pipe® sockets are fitted with EPDM seals as standard for regular drainage applications. For particularly aggressive applications, FPM and NBR seals are available. Refer to the table below to assess suitability and then contact ACO.

EPDM (Ethylene Propylene Diene Monomer)

EPDM was originally developed during the 1950s for vehicle tire applications. It reached wider applications because of its suitability for outdoor use.

FPM (Fluoroelastomer)

FPM is a fluorocarbon and the best material for resistance to hostile chemical and oil environments at normal and elevated temperatures. This material is widely used in the chemical and pharmaceutical industries, but is significantly more expensive than EPDM.

NBR (Nitrile rubber)

NBR has good water resistance, excellent chemical resistance and durability.

Seal Assembly Replacement or Upgrade

The double lip seal is easily removed and replaced from the female end of all ACO Pipe® pipes and fittings. This allows for easy upgrade of the seal material prior to installation.

Seal Installation Notes

1. If changing the seal, ensure the correct size and grade of seal is selected for the application (see table below).
2. Ensure the seal itself and the zone around the pipe and/or fitting receiving the seal is clean, dry and free from dust, grit and any metallic particles.
3. Insert the dry seal into the pipe and/or fitting recess. NOTE: the seal MUST be inserted so the double sealing lips face away from the opening of the pipe and/or fitting.
4. Do not use tools to aid the assembly process otherwise damage to the pipes, fittings and seals may occur.

Problem		EPDM	FPM	NBR	
Water Resistance		Excellent	Good	Good	
Chemical Resistance	Acids Bases	Good Good	Excellent Good	Excellent Good	
Solvent Resistance (68°F)	Alcohol Acetone Benzene	Good Good Unsatisfactory	Good Unsuitable Good	Good Unsuitable Unsuitable	
Oil Resistance	ASTM Oil No. 1	@ 68°F @ 212°F	Fair Unsatisfactory	Excellent 302°F Excellent	Excellent 302°F Good
	ASTM Oil No. 3	@ 68°F @ 212°F	Unsatisfactory Unsatisfactory	Excellent 302°F Excellent	Excellent 302°F Good
Fuel Resistance	ASTM Fuel B	@ 68°F	Unsatisfactory	Excellent	Excellent
Resistances	Oxidation Ozone & Weathering	Excellent Outstanding	Outstanding Outstanding	Outstanding Low	
Heat Resistance	Maximum Continuous	266°F	401°F	176°F	
	Maximum Intermittent	302°F	572°F	212°F	
Low Temperature Resistance		- 58°F	- 4°F	- 22°F	
Gas Permeability		Fairly Low	Very Low	Very Low	
Physical Strength		Good	Good	Good	
Compression Set Resistance		Good	Good	Good	
Tear & Abrasion Resistance		Good	Good	Good	
Cost Factor (1 = low)		1	20	2	

