

Material Data Sheet



Fluorosilicone

Because silicone rubber is permeable to hydrocarbons, fluorosilicone liners are often used in automotive applications to prevent oil seepage through the hose wall. This seepage could otherwise swell and damage the hose and also leave a sticky deposit on the outside of the hose that attracts dirt.

Artel recommend and use fluorosilicone rubber (FMVQ) for liners because of its stable physical properties throughout the operating temperature range of -55°C to 250°C . Unlike fluorocarbon (FKM or FPM) liner materials fluorosilicone does not exhibit thermoplastic tendencies, this allows the dynamic properties of the fluorosilicone liner to more closely follow those of the hose outer resulting in a product that does not become brittle at low temperatures or excessively soft at high temperature.

Fluorosilicone lined turbocharger and intercooler hoses are often specified for use on engines that have to meet Euro 3 and 4 emission levels and therefore have crankcase oil mist recirculated through the induction system.

<i>Original Properties</i>	<i>Result</i>
Hardness Shore A	70°
Specific Gravity	1.45
Tensile Strength	6 MPa
Elongation at Break	230%
Compression Set, 24 hours at 150°C	40%
Rebound Resilience	38%
Colour	Grey
<i>Air aged 10 days at 200°C</i>	
Hardness Shore A	66°
Tensile Strength	4.8 MPa
Elongation at Break	320%
<i>70 hours at 150°C IRM 903 oil</i>	
Hardness Shore A	65°
Tensile Strength	5.5 MPa
Elongation at Break	300%
Volume Change	+10%