

# Material

## 90 NBR 109

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Physical properties	nominal range	typical values	
<b>Density</b> DIN EN ISO 1183-1	1.33 ±0.02	1.33	g/cm <sup>3</sup>
<b>Hardness</b> DIN ISO 7619-1	90 ±5	90	Shore
<b>Rebound resilience</b> DIN 53512	---	---	%
<b>Modulus</b> 100 %, DIN 53504, S2	8	11.5	MPa
<b>Tensile strength</b> DIN 53504, S2	10	12.6	MPa
<b>Elongation at break</b> DIN 53504, S2	110	155	%
<b>Compression set</b> DIN ISO 815, 22 h, 100 °C	---	25	%
<b>Low Temperature</b> ISO 11357-2, DSC	---	-26	°C
<b>Temperature range</b>	-25°C to 100°C		

### Declarations of conformity

This overview is purely informative and does not constitute a declaration of conformity (DoC). Please refer to the actual declaration of conformity (DoC) including the conditions and its validity period.

Country	Part	Remark	Expires
Info ROHS and ELV		EU 2000/53 (ELV) including EU 2011/65 and EU2015/863 (ROHS III)	see DoC

### Freudenberg

Freudenberg FST GmbH  
 Technology&Innovation  
 Material Compliance  
 Telefon: -  
 Fax: -  
 Email: MaterialCompliance@fst.com

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Tested after ASTM D 2000: M 7 BG 910 B14 EA14 EF11 EF21 EO14 EO34

		nominal range	typical values
Hardness	Shore	90 ±5	93
Tensile strength	MPa	min. 10	14.5
Elongation at break	%	min. 100	145
<b>A14 Change after aging in Air 70h/100°C</b>			
Hardness	Shore A	---	2
Tensile strength	%	---	7
Elongation at break	%	---	-14
<b>B14 Compression set 22h/100°C</b>			
	%	25	21
<b>EA14 Change after aging in Distilled water 70h/100°C</b>			
Hardness	Shore A	±10	-4
Volume	%	±15	6
<b>EF11 Change after aging in Fuel A 70h/23°C</b>			
Hardness	Shore A	±10	-2
Tensile strength	%	-25	-15
Elongation at break	%	-25	-11
Volume	%	-5 to 10	1.7
<b>EF21 Change after aging in Fuel B 70h/23°C</b>			
Hardness	Shore A	0 to -30	-14
Tensile strength	%	-60	-45
Elongation at break	%	-60	-37
Volume	%	0 to 40	23
<b>EO14 Change after aging in IRM 901 70h/100°C</b>			
Hardness	Shore A	±5	5
Tensile strength	%	-25	-15

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Technology&Innovation  
Material Compliance

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5	9/1/2016			
		Elongation at break	%	-45
		Volume	%	-10 to 5
				-25
				-6
<b>EO34 Change after aging in IRM 903 70h/100°C</b>				
		Hardness	Shore A	-10 to 5
		Tensile strength	%	-45
		Elongation at break	%	-45
		Volume	%	0 to 25
				-8
				-15
				-28
				11

The given values are based on a limited number of tests on standard test pieces (2mm sheets) produced in the laboratory. The data from finished parts can deviate from above values depending on the manufactories process and the component geometry.

The data represents our present empirical values. It is incumbent on the person placing the order to examine whether it is suitable for its intended purpose, before using the product. All questions regarding the guarantee of this product are in line with our terms and conditions, inasmuch as statutory provisons do not plan for something else.

**Freudenberg**

Freudenberg FST GmbH  
Technology&Innovation  
Material Compliance

Telefon: -

Fax: -

Email: [MaterialCompliance@fst.com](mailto:MaterialCompliance@fst.com)