V1041-85 AFLAS™ (TFE/P Copolymer)

No. 5721B1-USA

Parker Aflas™ compound V1041-85 fluoroelastomer with broad chemical resistance for Energy, Oil and Gas (EOG) environments

Applications

Aflas TFE/P (tetrafluorethylene/propylene copolymer) materials are typically used in chemical processing, oilfield, pulp and paper mills, and other industrial environments that require broad chemical compatibility beyond the capabilities of standard fluorocarbon elastomers. Parker Aflas TFE/P elastomer applications include O-rings used in fluid handling systems, flow controls, pipeline delivery systems, mechanical seals, power generators, compressors and downhole drilling systems.

Chemical Compatibility

V1041-85 is **recommended** for a wide range of chemicals including:

Concentrated bases Hydraulic fluids
Sour (H₂S) oil and gas Bleaches
Steam/hot water Acids
Steam/oil mixtures Coolants

Phosphate esters Oxidizing agents
Amines Ozone/weathering

Drilling muds Alcohols

Engine oils Insecticides, herbicides

Pulp and paper liquors Brake fluids

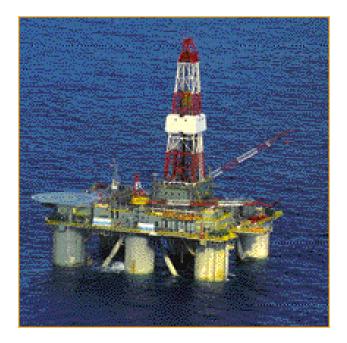
Power steering fluids Transmission fluids

V1041-85 is not recommended for use in:

Aromatic fuels Ketones Carbon tetrachloride Ethers Non-polar solvents Acetic acid Organic acetates

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Key Features

- Exhibits compatibility with concentrated bases (such as NaOH)
- Performs in temperatures up to 232°C (450°F)
- Exhibits excellent resistance to explosive decompression and extrusion
- Resists wider range of fluid chemistries and additive packages than standard fluorocarbon seal materials
- Provides improved chemical compatibility with sour (H₂S) gas and oil (over standard fluorocarbon seal materials)
- Meets long-term sealing service requirements in applications where high temperatures and harsh chemicals are present



Hardness, Shore A, pts. 86	Parker Compounds	V1041-85
Hardness, Shore A, pts. Tensile strength, psi Elongation, % Modulus @ 50% elongation Modulus @ 100% elongation Specific gravity Fluid Immersion, ASTM #3 Oil, (Platens) 70 hrs @ 135°C (275°F) Hardness change, pts. Tensile change, % Elongation change, % Fluid Immersion, NACE A 5%/Water 95% (Platens) 168 hrs @ 100°C (212°F) Hardness change, pts. Tensile change, % Fluid Immersion, NACE A 5%/Water 95% (Platens) 168 hrs @ 100°C (212°F) Hardness change, % Flougation change, % Fluid Immersion, NACE A 5%/Water 95% (Platens) 168 hrs @ 100°C (212°F) Hardness change, pts. Tensile change, % Flougation change, % Floughtion	Typical Physical Properties (Platens)	
Elongation, % 150 Modulus @ 50% elongation 963 Modulus @ 100% elongation 2074 Specific gravity 1.54 Fluid Immersion, ASTM #3 Oil, (Platens) 70 hrs @ 135°C (275°F) Hardness change, pts9 Tensile change, % -14.7 Elongation change, % +13.3 Volume change, % +13.7 Fluid Immersion, NACE A 5%/Water 95% (Platens) 168 hrs @ 100°C (212°F) Hardness change, pts3 Tensile change, % -14.0 Elongation change, % -14.0 Elongation change, % +85.0 Modulus change, % -49.0 Volume change, % +12.5 Compression set (2-214 O-rings) 22 hrs @ 177°C (350°F) % of original deflection 24.3 Compression Set (2-214 O-rings) 70 hrs @ 177°C (350°F) % of original deflection 34.3 Compression Set (2-214 O-rings) 168 hrs @ 204°C (400°F)		86
Modulus @ 50% elongation 963 Modulus @ 100% elongation 2074 Specific gravity 1.54 Fluid Immersion, ASTM #3 Oil, (Platens) 70 hrs @ 135°C (275°F) Hardness change, pts. -9 Tensile change, % -14.7 Elongation change, % +13.3 Volume change, % Hardness change, pts. -3 Tensile change, % -14.0 Elongation change, % +85.0 Modulus change, % -49.0 Volume change, % +12.5 Compression set (2-214 O-rings) 22 hrs @ 177°C (350°F) -24.3 Compression set (2-214 O-rings) -3 70 hrs @ 177°C (350°F) -49.0 % of original deflection 24.3 Compression set (2-214 O-rings) 70 hrs @ 177°C (350°F) -3 % of original deflection 34.3 Compression Set (2-214 O-rings) 168 hrs @ 204°C (400°F)	Tensile strength, psi	2864
Modulus @ 100% elongation 2074 Specific gravity 1.54 Fluid Immersion, ASTM #3 Oil, (Platens) 70 hrs @ 135°C (275°F) -9 Hardness change, pts. -9 Tensile change, % -14.7 Elongation change, % +13.3 Volume change, % +13.7 Fluid Immersion, NACE A 5%/Water 95% (Platens) 168 hrs @ 100°C (212°F) Hardness change, pts. -3 Tensile change, % -14.0 Elongation change, % +85.0 Modulus change, % -49.0 Volume change, % +12.5 Compression set (2-214 O-rings) 22 hrs @ 177°C (350°F) % of original deflection 24.3 Compression set (2-214 O-rings) 70 hrs @ 177°C (350°F) 34.3 Compression Set (2-214 O-rings) 34.3 Compression Set (2-214 O-rings) 168 hrs @ 204°C (400°F)	Elongation, %	150
Specific gravity	Modulus @ 50% elongation	963
Fluid Immersion, ASTM #3 Oil, (Platens) 70 hrs @ 135°C (275°F) Hardness change, pts9 Tensile change, % -14.7 Elongation change, % +13.3 Volume change, % +13.7 Fluid Immersion, NACE A 5%/Water 95% (Platens) 168 hrs @ 100°C (212°F) Hardness change, pts3 Tensile change, % -14.0 Elongation change, % +85.0 Modulus change, % -49.0 Volume change, % +85.0 Compression set (2-214 O-rings) 22 hrs @ 177°C (350°F) % of original deflection 24.3 Compression set (2-214 O-rings) 70 hrs @ 177°C (350°F) % of original deflection 34.3 Compression Set (2-214 O-rings) 168 hrs @ 204°C (400°F)		
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Volume change, % +13.7 Fluid Immersion, NACE A 5%/Water 95% (Platens) 168 hrs @ 100°C (212°F) Hardness change, pts3 Tensile change, % -14.0 Elongation change, % +85.0 Modulus change, % -49.0 Volume change, % +12.5 Compression set (2-214 O-rings) 22 hrs @ 177°C (350°F) % of original deflection 24.3 Compression set (2-214 O-rings) 70 hrs @ 177°C (350°F) % of original deflection 34.3 Compression Set (2-214 O-rings) 168 hrs @ 204°C (400°F)	Tensile change, %	-14.7
Fluid Immersion, NACE A 5%/Water 95% (Platens) 168 hrs @ 100°C (212°F) Hardness change, pts. -3 Tensile change, % Elongation change, % Modulus change, % Volume change, % -49.0 Volume change, % -49.0 Volume change, % -12.5 Compression set (2-214 O-rings) 22 hrs @ 177°C (350°F) % of original deflection 24.3 Compression set (2-214 O-rings) 70 hrs @ 177°C (350°F) % of original deflection 34.3 Compression Set (2-214 O-rings) 168 hrs @ 204°C (400°F)	Elongation change, %	+13.3
168 hrs @ 100°C (212°F) Hardness change, pts. -3 Tensile change, % -14.0 Elongation change, % +85.0 Modulus change, % -49.0 Volume change, % +12.5 Compression set (2-214 O-rings) 22 hrs @ 177°C (350°F) 24.3 Compression set (2-214 O-rings) 70 hrs @ 177°C (350°F) 34.3 Compression Set (2-214 O-rings) 168 hrs @ 204°C (400°F)	Volume change, %	+13.7
Tensile change, % -14.0 Elongation change, % +85.0 Modulus change, % -49.0 Volume change, % +12.5 Compression set (2-214 O-rings) 22 hrs @ 177°C (350°F) % of original deflection 24.3 Compression set (2-214 O-rings) 70 hrs @ 177°C (350°F) % of original deflection 34.3 Compression Set (2-214 O-rings) 168 hrs @ 204°C (400°F)		
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Modulus change, % Volume change, % Compression set (2-214 O-rings) 22 hrs @ 177°C (350°F) % of original deflection Compression set (2-214 O-rings) 70 hrs @ 177°C (350°F) % of original deflection 34.3 Compression Set (2-214 O-rings) 168 hrs @ 204°C (400°F)	Tensile change, %	-14.0
Volume change, % +12.5 Compression set (2-214 O-rings) 22 hrs @ 177°C (350°F) % of original deflection 24.3 Compression set (2-214 O-rings) 70 hrs @ 177°C (350°F) % of original deflection 34.3 Compression Set (2-214 O-rings) 168 hrs @ 204°C (400°F)	Elongation change, %	+85.0
Compression set (2-214 O-rings) 22 hrs @ 177°C (350°F) % of original deflection 24.3 Compression set (2-214 O-rings) 70 hrs @ 177°C (350°F) % of original deflection 34.3 Compression Set (2-214 O-rings) 168 hrs @ 204°C (400°F)	Modulus change, %	-49.0
22 hrs @ 177°C (350°F) % of original deflection 24.3 Compression set (2-214 O-rings) 70 hrs @ 177°C (350°F) % of original deflection 34.3 Compression Set (2-214 O-rings) 168 hrs @ 204°C (400°F)	Volume change, %	+12.5
Compression set (2-214 O-rings) 70 hrs @ 177°C (350°F) % of original deflection 34.3 Compression Set (2-214 O-rings) 168 hrs @ 204°C (400°F)		
70 hrs @ 177°C (350°F) % of original deflection 34.3 Compression Set (2-214 O-rings) 168 hrs @ 204°C (400°F)	% of original deflection	24.3
Compression Set (2-214 O-rings) 168 hrs @ 204°C (400°F)		
168 hrs @ 204°C (400°F)	% of original deflection	34.3
% of original deflection 50.0	168 hrs @ 204°C (400°F)	
70 of original deficution	% of original deflection	50.0

Unless otherwise noted, these are test values from a limited number of samples and should not be used for establishing specific limitations.

