

# Material Properties

## Aflas® TFE/P (AFL)

### Material code: 210

Aflas® is the trade name for a unique fluoroelastomer based upon an alternating copolymer of tetrafluoroethylene and propylene (TFE/P). The elastomer, when properly formulated, can be used to fabricate O-rings, gaskets, seals, packing, and coatings possessing several unique properties. It has excellent heat resistance with continuous service temperature capability of 230°C, while maintaining high chemical resistance including resistance to strong acids and bases, along with high electrical resistivity, and excellent oil resistance. Tests have shown that electrical resistance actually improves with heat exposure. Nor do physical properties suffer; tensile strength typically approaches 2,700 psi

Physical Properties	ASTM Method	Typical Values
Specific Gravity	D297	1.55 gr/cm 3
Color	N/A	Black
<b>Mechanical Properties</b>		
Tensile Strength	D412	2192 psi
Elongation	D412	
• At 1153 psi		100%
• At 1706 psi		200%
• At Break		251%
Compression Set	D395	
• 22 hrs. at 347°F		14%
• 22 hrs. at 392°F		21%
• 70 hrs. at 392°F		28%
• 336 hrs. at 392°F		43%
Hardness	Shore A	80
Shear Modulus, G		621 psi
Youngs Modulus, E		1861 psi
<b>Aging Resistance</b>		
Heat Resistance (70 hrs. at 482°F)	D573	
Hardness change	Shore A	-1
Tensile Strength change		+28%
Elongation Change		-23%
Volume Change		-1.6%
<b>EO ASTM #700 Oil (70 hrs. at 347°F)</b>		
Hardness Change	D471 Shore A	-19
Elongation Change		-18% max.
Tensile Strength Change		-24.7 psi
Volume Change		+24%
<b>EF21 Fuel B Resistance (70 hrs. at 74°F)</b>		
Hardness Change	D471 Shore A	-20
Tensile Strength Change		-64 psi
Elongation Change		-21% max.
Volume Change		+63.2%



**Thermal Properties**

Brittle Point Temperature	D746	-40°F
Temp Retraction TR-10	D1329	36°F
Continuous Service Temperature (Max @ no load)		450°F

**Note:** *Property values should be interpreted as typical rather than minimum value.* All technical information and recommendations are presented in good faith, and based upon laboratory and real-world tests believe to be reliable and practical. However, K.C. Seals, Inc. cannot guarantee the accuracy or completeness of this information, and it is the customers' responsibility to determine product suitability to any given application.

