



**Delrin 511P NC010**  
**1 ¼" & 1 ½" Sour Low Temp Check Valve**  
**RK7883-020**  
**Specification Data Sheet – July 11, 2006**

**Delrin 511P NC010 Product Information**

<b>Property</b>	<b>Test Method</b>	<b>Units</b>	<b>Value</b>
<b>Mechanical</b>			
Tensile Strength at Yield 5mm/min	ASTM D 638	MPa (kpsi)	72 (10.4)
Elongation at Yield 5mm/min	ASTM D 638	%	11
Elongation at Break 5mm/min	ASTM D 638	%	33
Tensile at Modulus 5mm/min	ASTMD 638	MPa (kpsi)	3380 (490)
Flexural Modulus	ASTM D 790	MPa (kpsi)	3300 (480)
Flexural Stress Strain 5%	ASTM D 790	MPa (kpsi)	105 (15)
Izod Impact	ASTM D 256	J/m (ft lb/in)	73 (1.4)
Unnotched Impact	ASTM D 4812	J/m (ft lb/in)	NB (NB)
<b>Thermal</b>			
Heat Deflection Temperature 0.45MPa (66psi), Not Annealed	ASTM D 648	°C (°F)	169 (336)
1.8MPa (264psi), Not Annealed			114 (237)
CLTE, Parallel 23-55C (73-130F)	ASTM D 3418	°C (°F)	1.11
CLTE, Normal 23-55C (73-130F)			117
Melting Point	ASTM D 3418	°C (°F)	178 (352)
<b>Flow</b>			
Melt Flow Rate 1.05kg at 190C	ASTM D 1238	g/10 min	7

<b>Electrical</b>			
Surface Resistivity	ASTM D 257	ohm	3 E14
Volume Resistivity	ASTM D 257	ohm cm	7 E14
Dielectric Strength, Short Time 3.2mm (0.126in)	ASTM D 149	kV/mm (V/mil)	18 (460)
Dielectric Constant 1E6 Hz	ASTM D 150		3.7
Dissipation Factor 1E6 Hz	ASTM D 150		0.005
<b>Flammability</b>			
Rating @ Min. Thickness	UL94		HB
Min. Thickness Tested	UL94	Mm (in)	0.75 (0.03)
<b>Other</b>			
Specific Gravity	ASTM D 792		1.42
Water Absorption Immersion 24h	ASTM D 570	%	0.3
Mold Shrinkage	ASTM D 955	%	
Flow, 24h, 3.2mm (0.126in)			1.5-1.8
Transverse, 24h, 3.2mm (00126in)			1.6-1.9
<b>Processing</b>			
Melt Temperature Range		°C (°F)	210-220 (410-430)
Mold Temperature Range		°C (°F)	80-100 (175-210)
Processing Moisture Content		%	<0.2



**Peek**  
**1 1/4" & 1 1/2" Sour High Temp Check Valve**  
**RK7883-021**  
**Specification Data Sheet – July 11, 2006**

**Peek Product Information**

Property	Test Method ASTM	Units	Value
<b>Mechanical</b>			
Specific Gravity, 23°C	D792	-	1.32
Tensile Strength, 23°C	D638	PSI	16,000
Tensile Modulus of Elasticity, 23°C	D638	PSI	600,000
Elongation, 23°C	D638	%	20
Flexural Strength, 23°C	D790	PSI	25,000
Flexural Modulus of Elasticity, 23°C	D790	PSI	600,000
Shear Strength, 23°C	D732	PSI	8,000
Compressive Strength, 10% deformation, 23°C	D695	PSI	17,000
Compressive Modulus of Elasticity 23°C	D695	PSI	600,000
Coefficient of Friction (dry vs. steel) Dynamic	-	-	0.4
Hardness, Rockwell Scale as noted 23°C	D785	-	M99 (R125)
Hardness, Durometer, Shore "D" Scale, 23°C	D2240	-	D85
Tensile Impact, 23°C	D1822 Type "S"	ft.lb./in. <sup>2</sup>	40
Izod Impact, 23°C	D256 Type "A"	ft.lb./in. of notch	1.0
<b>Thermal</b>			
Coefficient of Linear Thermal Expansion	E-831 (TMA)	In./in./°C	2.6×10 <sup>-5</sup>
Deflection Temperature 264psi	D648	°C	160
T <sub>g</sub> -Glass Transition (Amorphous)	-	°C	-
Melting Point (Crystalline) Peak	D3418	°C	340
Continuous Service Temperature in Air (Max).	-	°C	249

<b>Electrical</b>			
Dielectric Strength, Short Time	D149 (2)	Volts/mil	260
Volume Resistivity	D257	Ohm-cm	-
Dielectric Constant, 60Hz	D150 (2)	-	10.0
Dissipation Factor, 60Hz	D150 (2)	-	0.018
<b>Flammability</b>			
UL-94 @ 3.1mm (1/8 in.) Estimated Rating Based on Available Data	UL-94	-	V-0
<b>Chemical</b>			
Water Absorption Immersion 24hrs.	D570 (1)	% by wt.	0.1
Water Absorption Immersion Saturation	D570 (1)	% by wt.	0.50



**Aluminum 6061**  
**1 ¼" & 1 ½" Sweet High Temp Check Valve**  
**RK7883-022**  
**Specification Data Sheet – July 11, 2006**

**Aluminum 6061 Product Information**

Alloy & Temper  
 6061-T6. Solution heat treated and artificially aged.

**Specifications**                    ASTM B221 , QQ-A-200/8, AMS 4150

<b>Analysis</b>	<b>Al</b>	<b>Si</b>	<b>Fe</b>	<b>Cu</b>	<b>Mn</b>	<b>Mg</b>	<b>Cr</b>	<b>Zn</b>	<b>Ti</b>
BAL	0.40-0.8	0.7	0.15-0.04	0.15	0.8-1.2	0.04-0.35	0.25	0.15	

**Mechanical Properties**

<b>Minimum Properties</b>			<b>Typical Properties</b>			
UTS	Yield	Elong. in 2"	UTS	Yield	Elong. in 2"	Shear Strength
38ksi	35ksi	8-10%	45ksi	41ksi	12-17%	30ksi

**Characteristics**                    This is the least expensive and most versatile of the heat-treatable aluminum alloys and offer a good range of properties. It is generally selected where welding or brazing is required and for its high corrosion resistance.

**Typical Applications**            General engineering and structural components. Truck and trailers. Yachts and Boats. Furniture. Pipe fittings. Miscellaneous parts requiring good corrosion resistance.