



Fluorocarbon Compatibility in Biodiesel Fluids

MAKERS OF **ACUSHNET RUBBER**
O-RINGS - CUSTOM ELASTOMER SOLUTIONS

	<u>A</u> <u>Incorporated</u> <u>Cure</u> <u>Fluorocarbon</u> <u>65-66% F</u>	<u>B</u> <u>Peroxide</u> <u>Cure</u> <u>Fluorocarbon</u> <u>67% F</u>	<u>C</u> <u>Peroxide</u> <u>Cure</u> <u>Fluorocarbon</u> <u>70% F</u>	<u>D</u> <u>Peroxide</u> <u>Cure</u> <u>Fluorocarbon</u> <u>70% F</u> <u>with Zinc Oxide</u>
Original Physical Properties:				
Hardness Shore A, pts.	73	69	73	73
Tensile Strength, psi	2115	3327	3416	3412
Elongation, %	203	287	224	247
Modulus @ 100%, psi	872	526	876	901
Fluid Resistance, ASTM D471, B100 Soybean ME, 168h @ 23°C:				
Change in Durometer, pts.	-1	-2	-3	-2
Change in Tensile, %	-2	4	8	-6
Change in Elongation, %	7	9	10	-1
Volume Change, %	0	0	0	0
Fluid Resistance, ASTM D471, B100 Soybean ME, 336h @ 23°C:				
Change in Durometer, pts.	-1	0	-2	-2
Change in Tensile, %	-3	-5	10	0
Change in Elongation, %	8	0	14	4
Volume Change, %	0	0	0	0
Fluid Resistance, ASTM D471, B100 Soybean ME, 168h @ 150°C:				
Change in Durometer, pts.	-6	-6	-5	-15
Change in Tensile, %	-20	-18	-12	-60
Change in Elongation, %	6	2	13	-40
Volume Change, %	8	7	3	20
Fluid Resistance, ASTM D471, B100 Soybean ME, 336h @ 150°C:				
Change in Durometer, pts.	-7	-5	-6	-13
Change in Tensile, %	-21	-15	-12	-61
Change in Elongation, %	5	18	13	-36
Volume Change, %	8	6	4	17
Fluid Resistance, ASTM D471, B100 Rapeseed ME, 168h @ 23°C:				
Change in Durometer, pts.	-2	-1	-2	-1
Change in Tensile, %	-9	11	7	-3
Change in Elongation, %	0	5	10	-1
Volume Change, %	0	0	0	0
Fluid Resistance, ASTM D471, B100 Rapeseed ME, 336h @ 23°C:				
Change in Durometer, pts.	0	-1	-2	-1
Change in Tensile, %	-8	5	8	-1
Change in Elongation, %	0	11	13	4
Volume Change, %	0	0	0	0
Fluid Resistance, ASTM D471, B100 Rapeseed ME, 168h @ 150°C:				

Change in Durometer, pts.	-5	-5	-4	-17
Change in Tensile, %	-21	-6	-14	-15
Change in Elongation, %	2	10	-10	-1
Volume Change, %	7	6	4	25

**Fluid Resistance, ASTM D471,
B100 Rapeseed ME, 336h @ 150°C:**

Change in Durometer, pts.	-7	-5	-6	-15
Change in Tensile, %	-23	-6	-11	-70
Change in Elongation, %	2	16	21	-45
Volume Change, %	8	6	4	18

**Fluid Resistance, ASTM D471,
B20 Soybean ME, 336h @ 150°C:**

Change in Durometer, pts.	-5	-4	-5	-29
Change in Tensile, %	-18	-13	-13	-73
Change in Elongation, %	20	12	13	-52
Volume Change, %	9	7	7	46

**Fluid Resistance, ASTM D471,
B20 Rapeseed ME, 336h @ 150°C:**

Change in Durometer, pts.	-5	-4	-7	-25
Change in Tensile, %	-36	-23	-20	-68
Change in Elongation, %	22	3	5	-51
Volume Change, %	8	8	6	42



B100 Soybean ME, 336h @ 150°C:
Compound A through D, left to right