REDWOOD
PLASTICS AND RUBBER

Redco™ NYLON

PHYSICAL & MECHANICAL PROPERTIES	REDCO™ NYLON NATURAL	REDCO™ NYLON NATURAL OIL	REDCO™ NYLON BLUE	REDCO™ NYLON MD	REDCO™ NYLON OIL	REDCO™ NYLON MD-OIL	REDCO™ NYLON SL	REDCO™ PVM
SPECIFIC GRAVITY (g/cm3)	1.15	1.14	1.15	1.15	1.14	1.15	1.13	1.13
TENSILE STRENGTH (psi)	10,500 - 12,000	10,000 - 14,000	10,500 - 12,000	10,500 - 12,000	10,000	10,000 - 12,000	10,000 - 12,000	10,000
COMPRESSIVE STRENGTH @ 10% DEFLECTION (psi)	15,000	13,000 - 15,000	10,000 - 15,000	15,000	14,000 - 15,000	14,500	14,000 - 15,000	12,000
PRESSURE VELOCITY (PV) (ft/min/psi)	3,000	4,000	3,000	3,000	4,000	5,000	15,000	16,000
ELONGATION @ BREAK (%)	20 - 60	20 - 60	20 - 40	20 - 40	20 - 40	20 - 45	20 - 45	20
TENSILE MODULUS (psi)	350,000 -460,000	350,000 - 435,000	350,000 - 460,000	350,000 - 460,000	350,000 - 435,000	350,000 - 450,000	350,000 - 460,000	430,000
FLEXURAL STRENGTH (psi)	12,500 - 17,000	12,500 - 15,000	12,500 - 17,000	12,500 - 17,000	12,500 - 13,000	12,500 - 15,000	12,500 - 15,500	13,000
FLEXURAL MODULUS (psi)	330,000 - 500,000	350,000 - 450,000	330,000 - 450,000	330,000 - 450,000	350,000 - 450,000	420,000	430,000	330,000
COEFFICIENT OF FRICTION	.26 - .42 (Dry vs. Steel)	.12 - .19 (Dry vs. Steel)	.22 - .42 (Dry vs. Steel)	.36 - .42 (Dry vs. Steel)	.17 - .19 (Dry vs. Steel)	.13 - .20 (Dry vs. Steel)	.08 - .14 (Dry vs. Steel)	.14 (Dry vs. Steel)
24 HOUR H2O (%)	0.6 - 1.2	0.6 - 1.2	0.6 - 1.2	0.6 - 1.2	0.6 - 1.2	.20 - .50	0.30	0.5
EQUILIBRIUM H2O (%)	5 - 6	4 - 5	5 - 6	1.25 - 5	1.0 - 5	1.0 - 5	1.2 - 5	4
HARDNESS (Scale D)	78 - 83	74 - 78	78 - 83	80	80	80 - 84	80 - 84	79 - 81
COEFFICIENT OF THERMAL EXPANSION (in./in./f)	5.5 x 10 (-5)	5.5 x 10 (-5)	5.5 x 10 (-5)	5.5 x 10 (-5)	5.5 x 10 (-5)	5.5 x 10 (-5)	5.5 x 10 (-5)	5.5 x 10 (-5)
CONTINUOUS OPERATING TEMP (˚F)	200 - 250	200 - 250	200 - 250	200 - 250	200 - 250	200 - 250	200 - 250	240 - 255

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METRIC

	Redco Nylon Natural	Redco Nylon Natural Oil	Redco Nylon Blue	Redco Nylon MD	Redco Nylon Oil
Specific Gravity lbs/in3 (g/cm3)	0.042 (1.15)	0.041 (1.14)	0.042 (1.15)	0.042 (1.15)	0.041 (1.14)
Tensile Strength PSI (MPa)	10,500 - 12,000 (72-83)	10,000 (69)	10,500 - 12,000 (72-83)	10,500 - 12,000 (72-83)	10,000 (69)
Compressive Strength @ 10% Deflection	15,000 (103)	14,000 - 15,000 (97-103)	10,000 (69)	15,000 (103)	14,000 - 15,000 (97-103)
Elongation @ Break	30 - 40 %	35 - 40 %	30 - 40 %	30 - 40 %	35 - 40 %
Tensile Modulus PSI (MPa)	460,000 (3170)	435,000 (3000)	460,000 (3170)	460,000 (3170)	435,000 (3000)
Tensile Impact @ 73°F ft. lbs./in (J/m)	80 - 130 (4320-7000)	80 - 130 (4320-7000)	80 - 130 (4320-7000)	80 - 130 (4320-7000)	80 - 130 (4320-7000)
Flexural Strength PSI (MPa)	17,000 (117)	13,000 (90)	17,000 (117)	17,000 (117)	13,000 (90)
Flexural Modulus PSI (MPa)	330,000 (2275)	350,000 (2400)	330,000 (2275)	330,000 (2275)	350,000 (2400)
Coefficient of Friction	.36 - .42 (Dry vs. Steel)	.17 - .19 (Dry vs. Steel)	.36 - .42 (Dry vs. Steel)	.36 - .42 (Dry vs. Steel)	.17 - .19 (Dry vs. Steel)
24 Hour H2O	0.50%	0.30%	0.50%	0.50%	0.30%
Equilibrium H2O	1.25 - 4 %	1.0 - 2.8 %	1.25 - 4 %	1.25 - 4 %	1.0 - 2.8 %
Hardness	80 (Scale D)	80 (Scale D)	80 (Scale D)	80 (Scale D)	80 (Scale D)
Coefficient of Thermal Expansion in./in./°F (m/m/°C)	5.5 x 10-5 (9.9 x 10-5)	5.5 x 10-5 (9.9 x 10-5)	5.5 x 10-5 (9.9 x 10-5)	5.5 x 10-5 (9.9 x 10-5)	5.5 x 10-5 (9.9 x 10-5)
Continuous Operating Temp °F (°C)	220 - 250 (104 - 121)	220 - 250 (104 - 121)	220 - 250 (104 - 121)	220 - 250 (104 - 121)	220 - 250 (104 - 121)

METRIC

	Redco Nylon MD-Oil	Redco Nylon SL	Tuffkast 010	Tuffkast 015	Tuffkast 025
Specific Gravity lbs/in3 (g/cm3)	0.042 (1.15)	0.040 (1.13)	0.040 (1.13)	0.040 (1.13)	0.042 (1.15)
Tensile Strength	10,000 - 12,000 (69-83)	10,000 - 12,000 (69-83)	8,500 - 10,000 (59-69)	8,500 - 10,000 (59-69)	10,500 - 12,000 (72-83)
Compressive Strength @ 10% Deflection PSI (MPa)	14,500 (100)	14,000 - 15,000 (97-103)	12,000 (83)	12,000 (83)	10,000 (69)
Elongation @ Break	30 - 45 %	20 - 45 %	40 - 50 %	40 - 50 %	30 - 40 %
Tensile Modulus PSI (MPa)	450,000 (3100)	460,000 (3170)	390,000 (2690)	390,000 (2690)	460,000 (3172)
Tensile Impact ft. lbs./in. @ 73°F (J/m @ 23°C)	80 - 130 (4320-7000)	80 - 130 (4320-7000)	1.2 - 1.5 (65 - 81)	1.2 - 1.5 (65 - 81)	80 - 130 (4320-7020)
Flexural Strength PSI (MPa)	15,000 (103)	15,500 (107)	16,300 (112)	16,300 (112)	17,000 (117)
Flexural Modulus PSI (MPa)	420,000 (2900)	430,000 (2965)	320,000 (2200)	320,000 (2200)	330,000 (2275)
Coefficient of Friction	.13 - .20 (Dry vs. Steel)	.08 - .14 (Dry vs. Steel)	.15 - .3 (Dry vs. Steel)	.15 - .25 (Dry vs. Steel)	.36 - .42 (Dry vs. Steel)
24 Hour H2O	.2 - .5 %	0.30%	0.35%	.3 - .5 %	0.50%
Equilibrium H2O	1.0 - 2.35 %	1.2 - 3 %	.5 - 2.5 %	0.8 - 2.0 %	1.25 - 4 %
Hardness	80 - 84 (Scale D)	80 - 84 (Scale D)	77 - 78 (Scale D)	77 - 78 (Scale D)	80 (Scale D)
Coefficient of Thermal Expansion in./in./°F (m/m/°C)	5.5 x 10-5 (9.9 x 10-5)	5.5 x 10-5 (9.9 x 10-5)	5.5 x 10-5 (9.9 x 10-5)	5.5 x 10-5 (9.9 x 10-5)	5.5 x 10-5 (9.9 x 10-5)
Continuous Operating Temp °F (°C)	220 - 250 (104 - 121)	220 - 250 (104 - 121)	200 - 230 (93 - 110)	200 - 230 (93 - 110)	200 - 230 (93 - 110)