

GENERAL PURPOSE PRODUCTS

HEAVY DUTY



PHYSICAL PROPERTIES

Monofilament Diameter <i>ASTM D-204</i>	.010	.008	NA	0.10	0.15	NA	NA	NA
Flammability Rating	FAR 25, FMVSS 302							
Recommended Cutting	Hot Knife	Scissor	Hot Knife	Hot Knife	Hot Knife	Kevlar Shears	Scissor	Scissor
Stock Colors	19	1	1	4	3	1	10	1
Wall Thickness	.025	.024		.025	.038	.020	.09	.026
Tensile Strength PSI <i>ASTM D-2256</i>	85,000	85,000		85,000	85,000	439,000		
Abrasion Resistance <i>ASTM D-4157</i>	High	High	High	High	Very High	Very High	Very High	Very High
Tenacity (Gm/Denier) <i>ASTM D-638</i>	4.5	4.5		4.5	4.5	23.8		
Specific Gravity <i>ASTM D-792</i>	1.38	1.38	1.38	1.38	1.38	1.44		
Moisture Absorption % <i>ASTM D-570</i>	.08	.08		.08	.08			
Smoke D-Max <i>ASTM E-662</i>	56	56		56	56			
Toxicity Index <i>USN 713</i>	4.2	4.2		4.2	4.2			

Typical Elongation *ASTM D-2256-80*

Break	15	14		15	20	2.5		
3g/Denier	5	5		5	7			

Hard Vacuum Data *ASTM E-595 at 10-5 torr*

TML	.51	.51		.51	.51			
CVCM	0	0		0	0			
WVR	.10	.10		.10	.10			

OPERATING TEMPERATURES

Minimum Continuous	-75C/-103F	-75C/-103F	-75C/-103F	-75C/-103F	-75C/-103F	-170C/-340F
Maximum Continuous <i>MIL-I-23053</i>	125C/257F	125C/257F	125C/257F	125C/257F	125C/257F	160C/320F
Melt <i>ASTM D-2117</i>	230C/446F	230C/446F	230C/446F	230C/446F	230C/446F	NA

CHEMICAL RESISTANCE 1=No Effect 2=Little Effect 3=Affected 4=More Affected 5=Severely Affected

Aromatic Solvents	2	2	2	2	2	2
Aliphatic Solvents	1	1	1	1	1	2
Chlorinated Solvents	3	3	3	3	3	2
Weak Bases	1	1	1	1	1	1
Salts	1	1	1	1	1	1
Strong Bases	2	2	2	2	2	2
Salt Water <i>O-S-1926</i>	1	1	1	1	1	1
Hydraulic Fluid <i>MIL-H-5606</i>	1	1	1	1	1	1
Lube Oil <i>MIL-L-7808</i>	1	1	1	1	1	1
De-icing Fluid <i>MIL-A-8243</i>	1	1	1	1	1	1
Strong Acids	3	3	3	3	3	2
Strong Oxidants	2	2	2	2	2	2
Esters/Keytones	1	1	1	1	1	1
UV Light	1	1	1	1	1	4
Petroleum	1	1	1	1	1	1
Fungus <i>ASTM G-21</i>	1	1	1	1	1	2

Outgassing	med	med	med	med	med	
Oxygen Index <i>ASTM D-2863</i>	21	21	21	21	21	29
Halogen Free	yes	yes	yes	yes	yes	yes

**PRODUCTS**

**ADVANCED ENGINEERING PRODUCTS**



NA	.010	0.10	.008	.10	NA	.008	.016	.011	.011
		VW-1, FAR 25	VW-1	VW-1	VW-1	FAR 25	FAR 25		VW-1, FAR 25
Scissor	Shears	Hot Knife	Scissor	Hot Knife	Hot Knife	Hot Knife	Hot Wire/Knife	Hot Knife	Hot Knife
2	1	2	2	1	1	2	1	1	2
.160		.025	.024	.025		.02	.04	.03	.028
	125,000	55,000	55,000	55,000			20,000		45,000
Very High	Very High	High	High	High	High	Med	Med		Med
		4.6	4.6	4.6			1		2
	7.9	1.38	1.38	1.38	1.38	1.37	2.10		1.68
		.08	.08	.08		.02	<.01		.01
		275	275	275					
		6.2	6.2	6.2					

		15	14	15		30		34	
		5	5	5				18	
		.19	.19	.19					
		.01	.01	.01					
		.11	.11	.11					

		-75C/-103F	-75C/-103F	-75C/-103F	-75C/-103F	-70C/-94F	-70C/-94F	-45C/-49F	-75C/-103F
		125C/257F	125C/257F	125C/257F	125C/257F	200C/392F	280C/550F	150C/302F	150C/302F
	1,454C/2,650F	250C/482F	250C/482F	250C/482F	250C/482F	285C/545F	310C/590F	250C/482F	240C/464F

	1	2	2	2	2		1		1
	1	1	1	1	1	1	1		1
	1	3	3	3	3		1		1
	1	1	1	1	1	1	1		1
	2	1	1	1	1	1	1		1
	2	2	2	2	2		1		1
	2	1	1	1	1	1	1		1
	1	1	1	1	1	1	1		1
	1	1	1	1	1	1	1		1
	1	1	1	1	1	1	1		1
	2	3	3	3	3		1		1
	2	2	2	2	2		1		1
	1	2	2	2	2	1	2		2
	1	1	1	1	1	1	1		1
	1	1	1	1	1	1	1		1
	1	1	1	1	1	1	1		1

		med	med	med	med	low	very low		low
		31	31	31	31	40	95		64
	yes	yes	yes	yes	yes	yes	no		no

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EXTREME TEMPERATURE PRODUCTS



PHYSICAL PROPERTIES

Monofilament Diameter <i>ASTM D-204</i>	NA	NA	NA	NA	NA	NA	.028	.010	
Flammability Rating									
Recommended Cutting	Scissor	NA	Scissor	Scissor	Scissor	Scissor	Hot Knife	Hot Knife	Hot Knife
Stock Colors	2	4	1	1	2	1	2	2	2
Wall Thickness	see chart	.085	see chart	see chart	.08	see chart	.07	.026	
Tensile Strength PSI <i>ASTM D-2256</i>						90,000			
Abrasion Resistance <i>ASTM D-4157</i>	Med	Med	Low	Low	Med	High	High	Low	Low
Tenacity (Gm/Denier) <i>ASTM D-638</i>						4.9			
Specific Gravity <i>ASTM D-792</i>						1.38			
Moisture Absorption % <i>ASTM D-570</i>									
Smoke D-Max <i>ASTM E-662</i>									
Toxicity Index <i>USN 713</i>									

Typical Elongation *ASTM D-2256-80*

Break							27		
3g/Denier									

Hard Vacuum Data *ASTM E-595 at 10-5 torr*

TML									
CVCM									
WVR									

OPERATING TEMPERATURES

Minimum Continuous	-70C/-94F	-70C/-94F	-60C/-76F	-60C/-76F	-70C/-94F	-196C/-320F	-40C/-40F	-30C/-22F	-30C/-22F
Maximum Continuous <i>MIL-I-23053</i>	650C/1,202F	650C/1,202F	255C/491F	255C/491F	220C/428F	350C/662F	79C/175F	125C/257F	125C/257F
Melt <i>ASTM D-2117</i>	1,120C/2,048F	1,120C/2,048F	1,120C/2,048F	1,120C/2,048F	1,120C/2,048F	NA	126C/260F	230C/446F	230C/446F

CHEMICAL RESISTANCE 1=No Effect 2=Little Effect 3=Affected 4=More Affected 5=Severely Affected

Aromatic Solvents									
Aliphatic Solvents	1	1							
Chlorinated Solvents									
Weak Bases	1	1							
Salts	1	1							
Strong Bases						1			
Salt Water <i>O-S-1926</i>	1	1	1	1	1				
Hydraulic Fluid <i>MIL-H-5606</i>	1	1	1	1	1		1		
Lube Oil <i>MIL-L-7808</i>	1	1	1	1	1		1		
De-Icing Fluid <i>MIL-A-8243</i>	1	1	1	1	1		1		
Strong Acids						2			
Strong Oxidants	2	2				2			
Esters/Keytones	1	1							
UV Light	2	2	1	1	1	3			
Petroleum	1	1	1	1	1	1	1		
Fungus <i>ASTM G-21</i>	1	1							

Outgassing

Oxygen Index <i>ASTM D-2863</i>						28			
Halogen Free	yes	yes	yes	yes	yes	yes	yes	yes	yes

## SPECIALTY PRODUCTS



.012	NA	.010	.0.10	.005	.006	NA	NA	NA	.003	.010
Hot Knife	Scissor	Hot Knife	Hot Knife	Hot Knife	Hot Knife	Scissor	Hot Knife	Scissor	Hot Knife	Hot Knife
1	1	2	1		1	1	1	1	1	1
.03		.025	.025	.013	.015				.007	.025
75,000	75,000						55,000			
Very High	Very High	Low	Med	Med	Med	NA	Very High	Very High	Low	High
5										
1.14	1.14	1.3	1.3	1.3	1.38		1.12		1.14	1.32
1.5	1.5						1.1			

20										
7										

-45C/-49F	-45C/-49F	-75C/-103F	-75C/-103F	-70C/-94F	-75C/-103F		-45C/-49F	-45C/-49F	-70C/-94F -7
150C/302F	120C/248F	125C/257F	125C/257F	150C/302F	125C/257F		150C/302F	120C/248F	260C/500F
256C/493F	250C/482F	230C/446F	230C/446F	260C/500F	230C/446F		265C/509F	250C/482F	340C/644F

1	1				2		1	1	1
1	1				1		1	1	1
1	1				3		1	1	1
1	1				1		1	1	1
1	1				1		1	1	1
2	2	3	3	3	2		2	2	1
1	1				1		1	1	1
1	1				1		1	1	1
1	1				1		1	1	1
5	5	3	3	3	3		5	5	2
5	5				2		5	5	
	1				1		1	1	1
	2				1		2	2	2
3	2				1		2	2	1
2	3				1		2	3	

high	high						high		high	low
22	22						22		22	35
yes	yes	yes	yes	yes	yes		yes	yes	yes	yes