

Raw Material Information

UL® File Number & UL® Yellow Cards

Underwriter's Laboratories Inc. (UL®), plastics classification number is used to describe the performance of the material. Tests conducted by UL® may include the determination of material flammability (burning characteristics), ignition characteristics from various thermal and electrical sources, electrical tracking and other electrical characteristics, physical and mechanical characteristics, and analytical tests. In addition, the effect of long-term exposure to elevated temperature (air-oven aging), water, ultraviolet light, cold, etc. on property-retention may be evaluated.

For more information and to download the UL® Yellow Card for a Richco product, please visit www.ul.com and click on "Certifications".

UL® Flame Rating

UL94 classifications V0, V1, V2, and HB describe the flame retardancy levels for a given resin. V0 rated resins typically have the highest flame resistance followed by V1, V2, and HB.

For more information on UL® Flame Ratings and the Vertical Burn Test, please visit www.ul.com.

Material Operating Temperatures

The Material Temperature Ranges shown in the RMS Table are based on datasheets from the respective resin manufacturers and/or UL® RTI values. The values shown are for reference only to assist in material selection for your application. As each resin manufacturer uses different methods to evaluate the performance of their resins, the temperature ranges shown cannot necessarily be used to compare materials directly.

Adhesive Tape Usage Guidelines

Loads & Product Usage Guidelines

Long-term maximum product application loads generally should not exceed 0.25 psi. The surface area of contact is very critical for bond strength, so the amount of tape used should be maximized based on the application. In general, the tensile strength of the adhesive is higher than the peel or shear strength, so the product should be designed to be loaded in tension whenever possible.

Nylon & Adhesive Shelf Life

If products are kept under the Ideal Storage Conditions above, shelf life is 1 year from date of shipment.

Temperature Considerations

Ideal application temperature for most Richco adhesives is 70° - 100°F (21° - 38°C). Lower application temperatures should be avoided as the adhesive will be too firm and may not 'wet out' sufficiently. Operating temperatures of Richco adhesives are shown in the RMS table.

Application Guide

Surface Condition: The bonding surfaces must be clean, uniform, dry and free of condensation. Do not use on fabric, coarse concrete, loose paint, or rough, loose surfaces.

Surface Preparation: For maximum performance, clean the mounting surfaces with a cleaning solvent such as a 50/50 mixture of isopropyl alcohol and water. Be sure to follow the solvent manufacturer's directions for use. Some surfaces may require a sealant or primer to achieve the desired bonding. Test the product on your actual application.

Application pressure: Remove the release liner being very careful not to touch the adhesive surface and then quickly and firmly rub the product into place. Firm pressure is needed to ensure full contact and to allow the adhesive to fully wet-out on the mating surfaces.

Dwell Time: The bond strength is affected by the substrate surface, application temperature and dwell time. At room temperature approximately half of the bond strength will be obtained within the first half hour with the majority of the strength achieved within 24 hours. Therefore, whenever possible wait 24 hours before applying load.

Acrylic vs. rubber based adhesives: In general, rubber based adhesives offer higher initial tack whereas acrylic based adhesives maintain higher mechanical strength over time. One should evaluate the performance of the product on the actual end use application. Contact your local Richco representative for additional physical property and chemical resistance data.

Common Material Abbreviations

ABS = Acrylonitrile-butadiene-styrene	PPE/PS = Polyphenylene ether/polystyrene alloy
Acetal/POM = Polyacetal	PPE/SB = Polyphenylene ether/styrene-butadiene alloy
CPVC = Chlorinated polyvinyl chloride	PPS = Polyphenylene sulfide
EPDM = Ethylene-propylene-diene-monomer	PS = Polystyrene
HDPE = High density polyethylene	PSU = Polysulfone
HIPS = High impact polystyrene	PU = Polyurethane
LCP = Liquid Crystal Polymer	PVC = Polyvinyl chloride
LDPE = Low density polyethylene	PVDF = Polyvinylidene fluoride
Nitrile Rubber = Acrylonitrile rubber	SEBS = Styrene-ethylene butylene-styrene block copolymer
Nylon = Polyamide (PA)	SIR = Silicone molding compound
PBT = Polybutylene terephthalate	TPE = Thermoplastic elastomer
PC = Polycarbonate	TPR = Thermoplastic rubber
PE = Polyethylene	
PEI = Polyether imide	
PP = Polypropylene	

An asterisk(*) indicates data was not available at time of publication. Please see our website or contact your local Richco Representative for the necessary documentation.

RAW MATERIAL SPECIFICATION/DISCLAIMER OF WARRANTY: These Raw Material Specifications shall not be construed as creating an express warranty of description. The specifications are approximate and intended to serve only as guides and not as the basis of any sale, agreement or contract of goods sold by Richco, Inc. Richco, Incorporated reserves the right to change the raw material on any of its goods contained in this catalog without notice to any buyer. Further, these Raw Material Specifications have been provided by the manufacturer and Richco, Inc. does not warrant their accuracy.

RMS SPECIFICATIONS

RMS No.	Material Description	UL File No.	UL Flame Rating	RoHS Compliance	Material Temperature Range					
					°C			°F		
01	Nylon 6/6	E70062	V-2	Y	-40	-	85	-40	-	185
02	ABS	E38989	HB	Y	-40	-	95	-40	-	203
03	PC	E45587	HB	Y	-40	-	115	-40	-	239
04	PVC - Rigid	E41877	V-0	Y	0	-	50	32	-	122
05	PPE/PS	E121562	V-0	Y	-40	-	110	-40	-	230
06	LDPE	NO U.L.	Not rated	Y	-40	-	65	-40	-	149
07	HDPE	E41877	V-0	N	0	-	50	32	-	122
08	PP	E169973	HB	Y	0	-	65	32	-	149
09	ABS	E44741	HB	Y	0	-	60	32	-	140
10	PP	E169973	HB	Y	0	-	65	32	-	149
11	CPVC	E106426	V-0	Y	0	-	50	32	-	122
12	CAP	E31879	HB	Y	-20	-	50	-4	-	122
13	HDPE	NO U.L.	Not rated	Y	-20	-	65	-4	-	149
14	Acetal - US	E38860	HB	Y	-50	-	100	-58	-	212
14A	Acetal - UK	E42337	HB	Y	-50	-	100	-58	-	212
15	Acrylic adhesive / PU foam tape / PE liner	MH16770	Not rated	Y	0	-	85	32	-	185
16A	HIPS - UK	E141073	HB	Y	-20	-	50	-4	-	122
16B	HIPS - US	E57787	HB	Y	-20	-	50	-4	-	122
17	Nylon 6/6	E41938	V-2	Y	-40	-	85	-40	-	185
18	Nylon 6/6, Heat Stabilized, 33% Glass Filled - US	E41938	HB	Y	-30	-	140	-22	-	284
18A	Nylon 6/6, 25% Glass Filled - UK	E41938	V-0	Y	-30	-	130	-22	-	266
19	Nylon 6/6	E70062	V-0	Y	-40	-	110	-40	-	230
20	PVC - Rigid	E53006	V-0	Y	0	-	50	32	-	122
21	Nylon 66/6	E41938	HB	Y	-40	-	65	-40	-	149
23	PC	E121562	V-0	Y	-40	-	130	-40	-	266
24	Acrylic adhesive / PE foam tape / PE film liner	NO U.L.	Not rated	Y	-20	-	60	-4	-	140
25	PVC - Flexible	NO U.L.	Not rated	Y	0	-	50	32	-	122
26	PVC - Flexible	E54709	V-0	Y	0	-	90	32	-	194
27	Nylon 66, 25% Glass Filled	E170540	V-0	Y	-30	-	65	-22	-	149
28	Polyester Felt Fiber	NO U.L.	Not rated	Y	-	-	-	-	-	-
29	304 Stainless Steel	NO U.L.	Not rated	Y	-200	-	870	-328	-	1598
30	CAP	NO U.L.	Not rated	Y	-	-	-	-	-	-
31	Aluminum	NO U.L.	Not rated	Y	-	-	-	-	-	-
32	PVC - Rigid	E41877	V-0	Y	0	-	50	32	-	122
33	Silicone rubber and fiberglass	E59150	V-0	Y	-60	-	150	-76	-	302
34	Rubber adhesive / PE foam tape	NO U.L.	Not rated	Y	-40	-	71	-40	-	160
35	Nylon 6/6, 14% Glass Filled	E41938	HB	Y	-20	-	65	-4	-	149
38	Nylon 6, 30% Glass Filled	NO U.L.	Not rated	Y	-20	-	140	-4	-	284
39	Acetal	E41938	HB	Y	-40	-	95	-40	-	203
42	TPE	E80017	HB	Y	-60	-	95	-76	-	203
43	Nylon 6/6	E53898	V-0	Y	-40	-	120	-40	-	248
45	Nylon 6/6, Heat Stabilized	E41938	HB	Y	-40	-	85	-40	-	185
46	Nylon 66, UV Stabilized	E70062	V-2	Y	-40	-	85	-40	-	185
47	Nylon 6/6, Heat Stabilized	E41938	V-2	Y	-40	-	125	-40	-	257
48	Nylon 6/6	E41871	V-2	Y	-40	-	90	-40	-	194
49	Nylon 6/6, 25% Glass Filled	E41871	V-0	Y	-40	-	130	-40	-	266
50	PPS, 40% Glass Filled	E54700	V-0	Y	-40	-	220	-40	-	428
51	PSU	E41871	V-2	Y	0	-	155	32	-	311
52	Nylon 6	E41871	V-2	Y	-40	-	115	-40	-	239
53	PBT	E121562	V-0	Y	-30	-	140	-22	-	284
54	PP	E169973	HB	Y	0	-	65	32	-	149
55	PVC - Flexible	E137220	V-0	Y	-35	-	50	-31	-	122
56	Nylon 4/6	E172082	V-2	Y	-40	-	130	-40	-	266
58	Nylon 6	E148796	HB	Y	-20	-	65	-4	-	149
60	Nylon 6	E36632	V-2	Y	-40	-	65	-40	-	149
62	Nylon 6	E41871	V-2	Y	-40	-	115	-40	-	239
64	PU	E177325	HB	Y	0	-	50	32	-	122
65	Acrylic adhesive / PE coated paper liner	NO U.L.	Not rated	Y	-18	-	121	0	-	250

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NYLON STORAGE GUIDELINES/SHELF LIFE: All Richco nylon parts are packaged in sealed plastic bags and contain an appropriate level of moisture. When stored in the original unopened bags at 73°F (23°C) and 50% RH, parts shelf life is one year from date of shipment.

