White Vinyl Label Material

7901

FOD# 0908

Technical Data **November 1, 1999**

Supersedes March 31, 1999

Construction

(Calipers are nominal values.)

Facestock	Adhesive	Liner
3.4 mil (86 micron) Soft gloss white non-topcoated vinyl	1.0 mil (25 micron) #500 High-stability acrylic	6.7 mil (170 micron) 90 # Polycoated kraft

Features

- Conformable to contoured surfaces
- Resists wrinkling and delamination
- One-piece removal up to one year after application
- The #500 high-stability acrylic adhesive provides excellent adhesion to a variety of surfaces including stainless steel, polycarbonate, and polypropylene.
- 90 # lay-flat polycoated kraft liner provides easy sheet processing.
- 3M™ Label Material 7901 is UL recognized (File MH11410).

Application Ideas

- Labeling of small or irregular shape containers
- Labels requiring long term bond and piece removal
- Barcode labels and rating plates
- Property identification and asset labeling
- Warning, instruction, and service labels for durable goods
- Nameplates for durable goods

Typical Physical Properties and Performance Characteristics

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Adhesion: 180° peel test procedure is ASTM D 3330.
90° peel test procedure is ASTM D 3330 modified for the angle change.

	Initial (10 Minute Dwell/RT)				Conditioned for 3 Days at Room Temperature 72°F (22°C)			
	180° Peel		90° Peel		180° Peel		90° Peel	
Surface	**Oz./In.**	**N/100 mm**	**Oz./In.**	**N/100 mm**	**Oz./In.**	**N/100 mm**	**Oz./In.**	**N/100 mm**
Stainless Steel	41	44	32	35	52	56	26	28
Polycarbonate	52	56	46	50	68	74	35	38
Polypropylene	27	29	14	15	26	28	15	16
Glass	41	44	31	34	47	51	24	26
HD Polyethylene	10	11	12	13	21	23	13	14
LD Polyethylene	9	10	11	11	14	15	10	11

	Conditioned for 3 Day at 158°F (70°C)				Conditioned for 24 Hours at 90°F (32°C) at 90% Relative humidity			
	180° Peel		90° Peel		180° Peel		90° Peel	
Surface	**Oz./In.**	**N/100 mm**	**Oz./In.**	**N/100 mm**	**Oz./In.**	**N/100 mm**	**Oz./In.**	**N/100 mm**
Stainless Steel	72	78	46	50	58	63	31	34
Polycarbonate	19	21	12	13	59	64	35	38
Polypropylene	38	41	23	25	39	42	24	26
Glass	74	80	43	47	60	65	37	40
HD Polyethylene	29	31	17	18	29	31	17	18
LD Polyethylene	18	20	13	14	17	18	18	20

Liner Release: 180° Removal of Liner from Facestock

Rate of Removal	Grams/Inch Width	N/100 mm
90 inches/minute	17	0.65
300 inches/minute	30	1.16

Environmental Performance

Note: The following tests are intended to be a guide to product performance. Application testing is recommended using actual substrates, expected dwell times, and actual conditioning for determination of product suitability.

The properties defined are based on four hour immersions at room temperature (72°F/22°C) unless otherwise noted. Samples were applied to stainless steel panels 24 hours prior to immersion and were evaluated one hour after removal from the solution.

Chemical Resistance:

	Adhesion to Stainless Steel		Appearance	Edge Penetration
Chemical	**Oz./in.**	**N/100 mm**	**Visual**	**Millimeters**
Isopropyl Alcohol	39	42	Edge adhesive ooze.	1.0
Detergent (1% Alconox®*)	50	54	No change	0
Engine Oil (10W30) @ 250°F (121°C)	78	85	No change	0
Water for 48 hours	26	28	No change	0
pH 4	51	55	No change	0
pH 10	53	57	No change	0
409®* Cleaning Solution	48	52	No change	0
Toluene	0	0	Label came off.	NA
Acetone	0	0	Label came off.	NA
Brake Fluid	28	30	No change	0
Gasoline	0	0	Label came off.	0
Diesel Fuel	46	50	Edge adhesive ooze.	2.0
Mineral Spirits	41	44	No change	0
Hydraulic Fluid	52	56	No change	0

Temperature Resistance:

300°F (149°C) for 24 hours:	Melted
250°F (121°C) for 24 hours:	Very slight yellowing.
175°F (79°C) for 24 hours:	No significant visual change.
-40°F (-40°C) for 10 days:	No significant visual change.

Humidity Resistance:

24 hours at 90°F (32°C) and 90% relative humidity:
No significant change in appearance or adhesion**.**

Accelerated Aging:

ASTM D 3611: 96 hours at 150°F (65°C) and 80% relative humidity

	Rate of Removal	Grams/In. Width	N/100 mm
180° Removal of Liner from Facestock	90 inches/minute	18	0.69

	Rate of Removal	Oz./In. Width	N/100 mm
180° Peel Adhesion from Stainless Steel	12 inches/minute	28	1.08

Shelf Life	One year from date of manufacture of product when properly stored at 72°F (22°C) and 50% relative humidity.
Processing	**Printing:** • Label material is designed for screen printing. The converter should verify that their ink systems are compatible with the vinyl film by testing beforehand. **Die Cutting:** • Die cut with steel rule or flatbed dies. The 90# liner also allows kiss cutting and back splitting. The converter can cut through the vinyl facestock without cutting through the liner. Sheet label materials are not recommended for rotary die cutting and stripping operations. **Packaging:** • Finished labels should be stored in plastic bags.
Special Considerations	For maximum bond strength, the surface should be clean and dry. Typical cleaning solvents are heptane and isopropyl alcohol.** **NOTE: When using solvents, read and follow the manufacturer's precautions and directions for use. • For best bonding conditions, application surface should be at room temperature or higher. Low temperature surfaces, below 50°F (10°C), can cause the adhesive to become so firm that it will not develop maximum contact with the substrate. • Higher initial bonds can be achieved through increased rubdown pressure. Use maximum laminating pressure for best results.

Technical Information and Data

The technical information and data, recommendations, and other statements provided are based on tests or experience which 3M believes to be reliable, but the accuracy or completeness of such information is not guaranteed.

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