



Laminating Adhesives Data Page

FOD # 0352

3M™ 9447, 9457 and 9458 Laminating Adhesives For Label Component Systems

Description

Specifically designed for use with 3M Label Component Systems for protected graphics printing of polyester films. Also can be used in constructing custom tamper-indicating labels.

Product Constructions

<u>Product</u>	<u>Adhesive</u>	<u>Liner</u>
9447	1.0 mil (25 microns) #320 “Hi-Tenacity” Acrylic	3.2 mil (80 microns) 55# Densified Kraft
9457	1.0 mil (25 microns) #400 “Hi-Tack” Acrylic	3.2 mil (80 microns) 55# Densified Kraft
9458	1.0 mil (25 microns) #300 “Hi-Strength” Acrylic	3.2 mil (80 microns) 55# Densified Kraft

Features

- #320 adhesive is used for general purpose applications and offers excellent flagging resistance and adhesion to a variety of substrates.
- #400 adhesive offers excellent ultraviolet resistance and low temperature performance.
- #300 adhesive adheres to a variety of substrates including excellent bond to low surface energy plastics such as polypropylene and polyethylene.
- 55# kraft liner provides an ideal surface for rotary die-cutting.

Applications

- Used to make tamper-indicating labels with 3M Label Component System films and solutions. These labels may be used as seals for over the-counter drugs, banking envelopes, non-transferable automobile inspection labels and a variety of other applications.
- A component in the construction of labels with protected, or sub-surface printed graphics, used in harsh environments such as automotive under hood or outdoor environments.

Physical Properties

(Typical values - not for specification use)

	<u>Product</u>	20 Minute Dwell <u>Oz./In.</u>
ASTM D-3330 (modified)	9447	28
90 degree peel, 12"/min.	9457	20
(305 mm/min.) 2 mil polyester to stainless steel	9458	36

	<u>Product</u>	72 Hr. Dwell at Room Temp. <u>Oz./In.</u>
2 mil polyester to various surfaces:		
Stainless Steel (Metal)	9447	34
	9457	33
	9458	47
Polycarbonate (High Surface Energy Plastic)	9447	35
	9457	32
9458	43	
Polypropylene (Low Surface Energy Plastic)	9447	9
	9457	16
9458	37	

Environmental Performance

The properties defined are based on the attachment of impervious faceplate materials (such as polyester) to an aluminum test surface. Values are listed in ounces per inch based on a 90 degree peel at 12 inches/minute (305 mm/min).

	<u>9447</u>	<u>9457</u>	<u>9458</u>
Unleaded Gas at 1 Hr. Room Temp.	20	16	31
MEK at 1 Hr. Room Temp.	24	15	30
Freon TF at 1 Hr. Room. Temp.	28	20	35
Weak Acid (pH 4) at 4 Hrs. Room Temp.	30	36	52
Weak Base (pH 10) at 4 Hrs. Room Temp.	25	20	53

	<u>9447</u>	<u>9457</u>	<u>9458</u>
Oil (10W30) at 72 Hrs. 120 degrees F (49 degrees C)	37	20	45
Water at 100 Hrs. Room Temp.	36	35	51
7 Days at 90 degrees F (32 degrees C) and 90% Relative Humidity	56	52	66
Temperature Cycling: 4 Hrs. at 158 degrees F (70 degrees C) 4 Hrs. at -20 degrees F (-29 degrees C) 16 Hrs. at Room Temp. Repeat three times	40	31	49

Temperature Resistance:

#300 “Hi-Strength”, #320 “Hi-Tenacity” and #400 “Hi-Tack” adhesives have a temperature range of -40 degrees F (-40 degrees C) to 150 degrees F (65 degrees C) for days or weeks and to 250 degrees F (121 degrees C) for minutes or hours.

Shelf Life:

Product retains its performance and properties for two years from date of purchase if properly stored at room temperature conditions of 72 degrees F (22 degrees C) and 50% relative humidity.

Processing

For processing instructions, refer to the “Label Component System Process Guide.”

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