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Flexomount™ Solid Printing Tapes

Technical Data

July, 2009

Product Description

3M™ Flexomount™ Solid Printing Tapes are double coated tapes designed for mounting photopolymer and rubber printing plates to flexographic printing cylinders or sleeve systems. The adhesive systems are specially formulated for clean removability from both the plate and the print cylinder.

Flexomount tapes have a solid vinyl carrier which is designed for printing solids and line work.

Product	Thickness		Description
3M™ Flexomount™ Solid Printing Tapes			
*447DL	0.010 in.	0.25 mm	Gray double coated tape with a soft rubber adhesive on each side of a vinyl carrier. Available in double or single liner.
*411DL	0.015 in.	0.38 mm	
*412DL	0.020 in.	0.50 mm	
*413DL	0.015 in.	0.38 mm	Black double coated tape with a firm rubber adhesive on each side of a vinyl carrier.
*414DL	0.020 in.	0.50 mm	

All thicknesses are nominal performance thicknesses for which the products are targeted to perform during the flexographic printing operation.

*These products comply with RoHS (Restriction of Hazardous Substances): EU Directive 2002/95/EC. RoHS compliant means that the product does not contain any of the substances in excess of the maximum concentration values as amended by Commission Decision 2005/618/EC.

3M™ Flexomount™ Solid Printing Tapes

Typical Physical Properties

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

Product		3M™ Flexomount™ Solid Printing Tapes				
		411DL	412DL	413DL	414DL	447DL
Adhesive		Rubber Soft	Rubber Soft	Rubber Firm	Rubber Firm	Rubber Soft
Carrier		Solid Vinyl (Gray)	Solid Vinyl (Gray)	Solid Vinyl (Black)	Solid Vinyl (Black)	Solid Vinyl (Gray)
Type of Printing		Solid and Line	Solid and Line	Solid and Line	Solid and Line	Solid and Line
Type of Plate		Rubber & Photopolymer	Rubber & Photopolymer	Rubber & Photopolymer	Rubber & Photopolymer	Rubber & Photopolymer
Thickness Tape	in.	0.015	0.020	0.015	0.020	0.010
	(mm)	(0.381)	(0.508)	(0.381)	(0.508)	(0.254)
Paper Liner	in.	0.004	0.004	0.004	0.004	0.004
	(mm)	(0.102)	(0.102)	(0.102)	(0.102)	(0.102)
Poly Liner	in.	0.004	0.004	0.004	0.004	0.004
	(mm)	(0.102)	(0.102)	(0.102)	(0.102)	(0.102)
Lot to Lot Tolerance	in.	± 0.0015	± 0.0015	± 0.0015	± 0.0015	± 0.0015
	(mm)	(± 0.038)	(± 0.038)	(± 0.038)	(± 0.038)	(± 0.038)
Typical Application Area Caliper Variation*	in.	± 0.0006	± 0.0006	± 0.0006	± 0.0006	± 0.0006
	(mm)	(± 0.015)	(± 0.015)	(± 0.015)	(± 0.015)	(± 0.015)
Roll Length	yd.	36	36	36	36	36
	(m)	(32.9)	(32.9)	(32.9)	(32.9)	(32.9)
Master Width	in.	54	54	54	54	54
	(mm)	(1371.6)	(1371.6)	(1371.6)	(1371.6)	(1371.6)
Slitting Tolerance	in.	± 1/32	± 1/32	± 1/32	± 1/32	± 1/32
	(mm)	(± 0.795)	(± 0.795)	(± 0.795)	(± 0.795)	(± 0.795)
Shelf Life (months)		12	12	12	12	12

*Typical application area is 18 in. x 6 ft. = 1 square yard, 457.2 mm x 1828.8 mm = 0.8361 m². Caliper variation defined as ± 2 standard deviations.

3M™ Flexomount™ Solid Printing Tapes

Typical Physical Properties (continued)

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

Product		3M™ Flexomount™ Solid Printing Tapes				
		411DL	412DL	413DL	414DL	447DL
Density	lb/ft ³ (kg/m ³)	70 (1060)	70 (1060)	70 (1060)	70 (1060)	70 (1060)
Peel Adhesion ASTM D-3330						
Stainless Steel	oz/in (N/100mm)	50 (55)	50 (55)	40 (44)	40 (44)	50 (55)
Composite Sleeve	oz/in (N/100mm)	30 (33)	30 (33)	25 (27)	25 (27)	30 (33)
Photopolymer	oz/in (N/100mm)	40 (44)	40 (44)	30 (33)	30 (33)	40 (44)
Rubber	oz/in (N/100mm)	50 (55)	50 (55)	50 (55)	50 (55)	50 (55)
Static Shear						
Room Temp	grams	1000	1000	1000	1000	1000
158°F (70°C)	grams	250	250	250	250	250
Value is weight that tape will hold for 10,000 minutes (ASTM D-3654)						
Solvent Resistance						
Water		Excellent	Excellent	Excellent	Excellent	Excellent
Alkanes		Good	Good	Good	Good	Good
Alcohols		Fair	Fair	Good	Good	Fair
Acetates		Poor	Poor	Poor	Poor	Poor
Heat Resistance	°F °C	120 (49)	120 (49)	130 (54)	130 (54)	130 (54)

3M™ Flexomount™ Solid Printing Tapes

Product Selection Considerations

		Type of Printing	
		Solids and Line printing where maximum ink density is critical	
Plate Type	Thickness	High Plate Side Adhesion	Medium Plate Side Adhesion
Photopolymer	0.010 in. (0.25 mm)	447DL	
	0.015 in. (0.38 mm)	411DL	413DL
	0.020 in. (0.50 mm)	412DL	414DL
Rubber	0.010 in. (0.25 mm)	447DL	
	0.015 in. (0.38 mm)	411DL 413DL	
	0.020 in. (0.50 mm)	412DL 414DL	

There are four general considerations for selecting the right mounting tape: the thickness of the tape, the type of printing plate, the adhesion properties and the type of printing.

- **Tape Thickness:**

3M™ Flexomount™ Solid Printing Tape products range in thickness in order to meet undercut or pitch diameters that are common on flexographic printing presses. Tapes are available for 10, 15 and 20 mil (0.25, 0.38 and 0.50 mm) applications.

- **Type of Printing Plate:**

The adhesive systems on each tape have been developed for bonding to photopolymer or rubber printing plates.

- **Adhesion Properties:**

Flexomount solid printing tapes come in two different adhesion levels: standard (gray) and repositionable (black).

3M™ Flexomount™ Tapes 411DL, 412DL and 447DL come with the standard adhesive. These products have excellent adhesion to both rubber and photopolymer plates. The high adhesion makes it a good choice for long runs and helps reduce the tendency for plate edge lifting. 3M™ Flexomount™ Tapes 413DL and 414DL come with a firmer adhesive which provides easier plate repositioning and higher temperature and solvent resistance.

3M™ Flexomount™ Solid Printing Tapes

Technical Information

The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

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Printed in U.S.A.
©3M 2009 70-0709-1010-7 (7/09)