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Technical Data | June 2022

3M™ Chemical-Resistant Adhesive Transfer Tape 96100CR Series

Product Description

3M™ Chemical-Resistant Adhesive Transfer Tape 96100CR Series is a chemical resistant adhesive transfer tape featuring a proprietary specialty adhesive designed for electronic device and enclosure bonding. With exceptional chemical resistance, this clear tape is ideal for high and medium surface energy substrates such as metals, plastics, polyimide films and ink-printed surfaces. 3M™ Chemical-Resistant Adhesive Transfer Tape Series comes in 3 different thicknesses, 3M tape 96102CR (25μm), 3M tape 96105CR (50μm) and 3M tape 96110CR (100μm).

Key Features

- Excellent chemical resistance to a variety of household chemicals.
- High bond strength to high/medium surface energy substrates such as metals, plastics, polyimide films and ink-printed surfaces.

Product Construction/Material Description

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

3M™ Chemical-Resistant Adhesive Transfer Tape 96100CR Series	
Property	Description
Adhesive	3M proprietary specialty adhesive
Adhesive thickness	25μm (1.0 mil), 50μm (2.0 mil), 100μm (4.0 mil)
Adhesive color	Clear
Liner Type	Clear PET
Liner Thickness (top / bottom)	50μm (2.0 mil) / 50μm (2.0 mil)

Applications

- Electronic Device Component Bonding
- Electronic Device Enclosure Bonding
- Electronics Accessory Bonding

Application Techniques:

For maximum bond strength the surfaces should be thoroughly cleaned and dried, one cleaning example is to use a 50:50 (volume/volume) mixture of isopropyl alcohol and water. Consult manufacturer's directions for use and precautions when using cleaning solvents. Ideal tape application is accomplished when the product and substrate temperature is between 21°C (70°F) and 38°C (100°F) and the bond is allowed to dwell for 72 hours. Initial tape application to surfaces at temperatures below 10°C (50°F) is not recommended. For application on rough surfaces, moderate heat lamination (65°C, 72.5psi for 1 to 5 minutes) is recommended.

3M™ Chemical-Resistant Adhesive Transfer Tape 96100CR

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. Final product specifications and testing methods will be outlined in the products Certificate of Analysis (COA) that is shipped with the commercialized product.

3M™ Chemical-Resistant Adhesive Transfer Tape 96100CR Series				
Property	**Test Method[1]**	**96102CR (25μm)**	**96105CR (50μm)**	**96110CR (100μm)**
180° Peel adhesion to SS 15-minute room temperature dwell[2]	ASTM D3330	41 (oz/in) 0.46 (N/mm) 1.2 (kg/25.4mm)	46 (oz/in) 0.52 (N/mm) 1.3 (kg/25.4mm)	57 (oz/in) 0.64 (N/mm) 1.6 (kg/25.4mm)
180° Peel adhesion to SS 1-hour room temperature dwell	ASTM D3330	52 (oz/in) 0.58 (N/mm)[8] 1.5 (kg/25.4mm)	53 (oz/in) 0.59 (N/mm) 1.5 (kg/25.4mm)	71 (oz/in) 0.79 (N/mm) 2.0 (kg/25.4mm)
180° Peel adhesion to SS 72-hour room temperature dwell	ASTM D3330	62 (oz/in) 0.69 (N/mm) 1.7 (kg/25.4mm)	72 (oz/in) 0.81 (N/mm) 2.0 (kg/25.4mm)	101 (oz/in) 1.13 (N/mm) 2.8 (kg/25.4mm)
180° Peel adhesion on SS 24-hour 85C dwell	ASTM D3330	72 (oz/in) 0.80 (N/mm) 2.0 (kg/25.4mm)	94 (oz/in) 1.05 (N/mm) 2.6 (kg/25.4mm)	173 (oz/in) 1.94 (N/mm) 4.9 (kg/25.4mm)
Static Shear 500g at 70°C	ASTM D3654	>10,000 Minutes	>10,000 Minutes	>10,000 Minutes
Glass Transition Temperatures (Peak at tan delta)	DMA Mastercurve, 1Hz, 5% strain	1.5 °C		
Storage Modulus[7] at 25°C, 1Hz	DMA Mastercurve, 1Hz, 5% strain	560 kPa		

1. Methods listed as ASTM are tested in accordance with the ASTM method noted
2. Peel tests were completed with 2 mil PET film backing
3. ASTM D4498 is for Hot Melt Adhesives, modified to incorporate PSA adhesives.
4. Long term: Approximate temperature at which the adhesive will support a 500g weight in a static shear mode for several days. Typically, the adhesive can remain at this temperature for a few days and possibly up to a few weeks at a time.
5. Short term: Approximate temperature at which the adhesive will shear with a 500g weight in a static shear mode. Typically, the adhesive can remain at this temperature for a few minutes and possibly up to 120 minutes at a time.
6. % peel retention from control after chemical immersion at 60°C for 16 hours
7. Materials data card is available, please contact technical support for details
8. >0.3 N/mm peel force for 96102CR at 1 hour RT dwell

Storage and Shelf Life

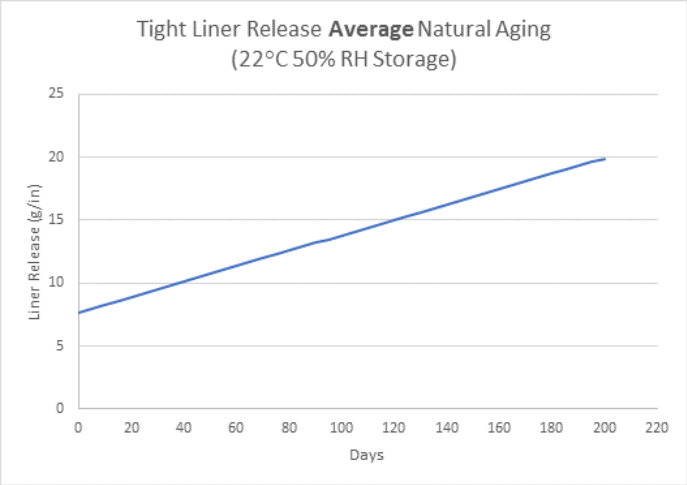
The shelf life of 3M™ Chemical-Resistant Adhesive Transfer Tape 96100CR Series is 12 months from the date of manufacture when stored at temperature < -18°C. When stored in its original packaging materials and maintained at 21°C (70°F) and 50% relative humidity, the shelf life is 6 months from the date of manufacture.

Product Storage Shelf Life:

The tight side liner release will increase at approximately 0.07 g/in per day (tight side liner release USL at 6 months room temperature storage is 30 g/in). To maintain tight side liner release below 15 g/in, 3M tape 96100CR should be kept in the original packaging materials and stored at temperatures ≤ -18°C. The product should be allowed to warm to

room temperature for approximately 4 hours prior to use to prevent moisture condensation on the film. No changes in adhesive performance has been observed with long-term cold storage.

The following graph demonstrates how liner release will increase over a 6-month period without cold storage:



Certificate of Analysis (COA)

The 3M Certificate of Analysis (COA) for this product is established when the product is manufactured and deemed commercially available from 3M. The COA contains the 3M test methods, specifications limits and test results for the product's performance attributes that the product will be supplied against. Contact your local 3M representative for this product's COA.

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Regulatory: For regulatory information about this product, contact your 3M representative.

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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