Technical Data Sheet

3M™ Chemical-Resistant Adhesive Transfer Tape 96105CR

Product Description

3M™ Chemical-Resistant Adhesive Transfer Tape 96105CR is a chemical resistant adhesive transfer tape featuring a new proprietary specialty adhesive designed for electronic device and enclosure bonding. With exceptional chemical resistance, this 50 µm (2.0 mil) clear tape is ideal for high and medium surface energy substrates such as metals, plastics, polyimide films and ink-printed surfaces.

Product Features

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

Technical Information Note

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

Typical Physical Properties

Attribute Name	Test Method	Value
Adhesive Type		3M proprietary specialty adhesive
Cured Color		Clear
Total Tape Thickness	ASTM D3652	0.05 mm (2 mil)
Primary Liner Type		Clear PET [1]
Secondary Liner Type		Clear PET [1]
Primary Liner Thickness		0.05 mm (2 mil)
Secondary Liner Thickness		0.05 mm (2 mil)

[1] Inner liner is primary (stays with die-cut part); Outer liner is secondary (removed first)

Typical Cured Characteristics

Test Condition: DMA

Attribute Name	Value
Storage Modulus	0.56 @ 25C MPa [1]

[1] Temp ramp 3 °C/min

Typical Performance Characteristics

180° Peel Adhesion

Substrate: Stainless Steel
Temperature: 23 °C (73 °F)
Backing: 2 mil PET
Test Method: ASTM D3330

Dwell Time	Value
15 min	5.2 N/cm (46 oz/in) [1]
72 h	8.1 N/cm (72 oz/in) [1]

[1] 304 mm/min (12 in/min)

Static Shear

Temperature: 70 °C (158 °F)
Test Method: ASTM D3654

Value
>10,000 min [1]
> 10,000 min

[1] 25 x 25 mm (1 in x 1 in) sample area, test terminated after 10,000 minutes

Electrical and Thermal Properties

Attribute Name	Value
Glass Transition Temperature (Tg)	1.5 °C [1]

[1] DMA (1 Hz, 5% Strain, Temperature Ramp: 3 °C/min)

Handling/Application Information

Application Examples

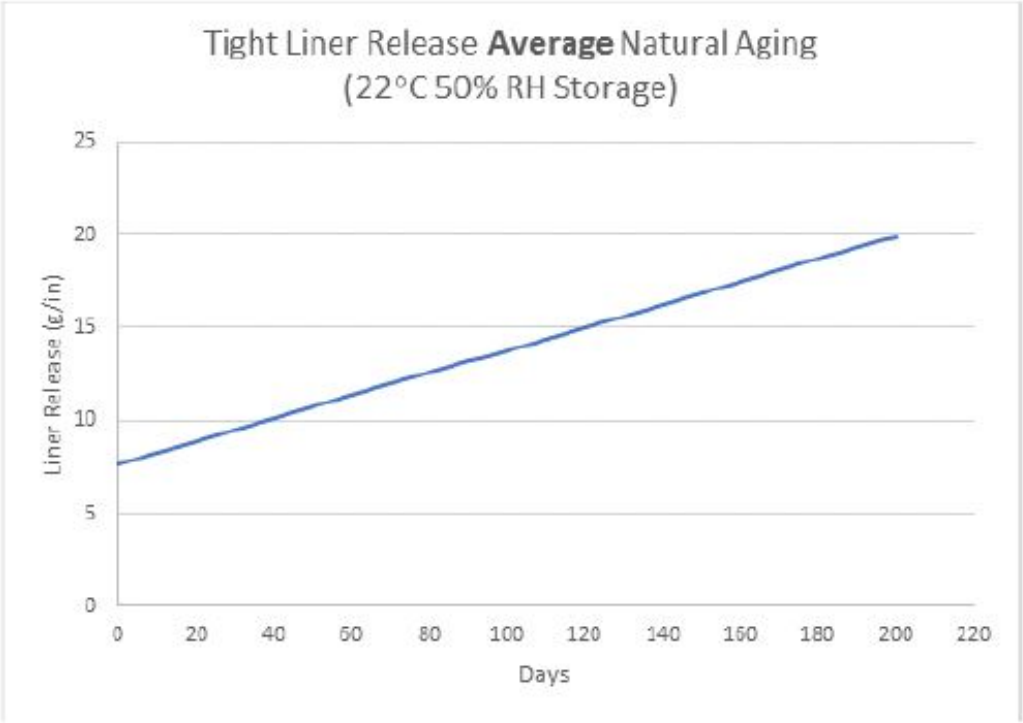
- Electronic Device Component Bonding
- Electronic Device Enclosure Bonding
- Electronics Accessory Bonding

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.

Storage and Shelf Life

The shelf life of 3M™ Chemical-Resistant Adhesive Transfer Tape 96105CR is 6 months from the date of manufacture when stored in its original packaging materials and maintained at 21°C (70°F) and 50% relative humidity.
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 96105CR should be kept in the original packaging materials and stored at temperatures ≤ 2°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 commercially available from 3M. The commercially available product will have a COA specification established. The COA contains the 3M specifications and test methods for the products performance limits that the product will be supplied against. The 3M product is supplied to 3M COA test specifications and the COA test methods. Contact your local 3M representative for this product's COA.

Precautionary Information

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

Automotive Disclaimer

Select Automotive Applications:
This product is an industrial product and has not been designed or tested for use in certain automotive applications, such as automotive electric powertrain battery or high voltage applications, which may require the product to be manufactured in a IATF certified facility, meet a Ppk of 1.33 for all properties, undergo an automotive production part approval process (PPAP), or fully adhere to automotive design or quality system requirements (e.g., IATF 16949 or VDA 6.3). Customer assumes all responsibility and risk if customer chooses to use this product in these applications.

Information

Technical Information: The technical information, guidance, and other statements contained in this document or otherwise provided by 3M are based upon records, tests, or experience that 3M believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Such information is intended for people with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. No license under any 3M or third party intellectual property rights is granted or implied with this information.

Product Selection and Use: Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. As a result, customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's application, including conducting a workplace hazard assessment and reviewing all applicable regulations and standards (e.g., OSHA, ANSI, etc.). Failure to properly evaluate, select, and use a 3M product and appropriate safety products, or to meet all applicable safety regulations, may result in injury, sickness, death, and/or harm to property.

Warranty, Limited Remedy, and Disclaimer: Unless a different warranty is specifically stated on the applicable 3M product packaging or product literature (in which case such warranty governs), 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ARISING OUT OF A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. If a 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price. Warranty claims must be made within one (1) year from the date of 3M's shipment.

Limitation of Liability: Except for the limited remedy stated above, and except to the extent prohibited by law, 3M will not be liable for any loss or

damage arising from or related to the 3M product, whether direct, indirect, special, incidental, or consequential (including, but not limited to, lost profits or business opportunity), regardless of the legal or equitable theory asserted, including, but not limited to, warranty, contract, negligence, or strict liability.

Disclaimer: 3M industrial and occupational products are intended, labeled, and packaged for sale to trained industrial and occupational customers for workplace use. Unless specifically stated otherwise on the applicable product packaging or literature, these products are not intended, labeled, or packaged for sale to or use by consumers (e.g., for home, personal, primary or secondary school, recreational/sporting, or other uses not described in the applicable product packaging or literature), and must be selected and used in compliance with applicable health and safety regulations and standards (e.g., U.S. OSHA, ANSI), as well as all product literature, user instructions, warnings, and limitations, and the user must take any action required under any recall, field action or other product use notice. Misuse of 3M industrial and occupational products may result in injury, sickness, or death. For help with product selection and use, consult your on-site safety professional, industrial hygienist, or other subject matter expert. For additional product information, visit www.3M.com.

3M™ Industrial Adhesives and Tapes Division
3M Center, St. Paul, MN 55144-1000
3M.com/iatd

3M is a trademark of 3M Company
© 3M 201 (12/16)