SNAPSHOOT
ENGINEERED FOR A SAFER TOMORROW

현장을 이해하고, 필요한 솔루션을 연결합니다.

산업안전 · 추락방지 시스템
산업용 소재 · 건축자재
제품 제안부터 공급·시공·설치·교육까지



COMPANY INFORMATION

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TECHNICAL DOCUMENTS

인증서 · 데이터시트 · 기술자료

제품의 규격과 성능, 인증 및 적용 조건을 확인하기 위한 자료입니다.

ABOUT SNAPSHOOT

제품 공급을 넘어, 현장에 맞는 해결책으로

스냅슛은 산업현장의 작업 환경과 요구 조건을 바탕으로
적합한 제품과 시스템을 제안합니다. 현장 실사를 통해 설치 조건을 확인하고,
공급부터 시공·설치 및 사용 교육까지 필요한 과정을 함께합니다.

추락방지 시스템

안전대부착설비 · 수평·수직 라이프라인
레일 시스템 · 리지드 포스트

밀폐공간 진입·구조 솔루션

데빗암 · 삼각대 · 구조용 윈치
윈치 안전블록 · 구조장비

산업안전 보호구

전신형 안전대 · 랜야드 · 안전블록
작업 환경에 맞춘 개인보호구

산업용 소재·건축자재

산업용 테이프 · 접착제 · 기능성 소재
구조용 스크류 · 목조건축 자재

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홈페이지 바로가기 →
문서 라이브러리 바로가기 →
시공사례 바로가기 →
문의하기 →

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3M Science. Applied to Life.™

Technical Data Sheet

3M™ UV Activated Film 81100

English-US

Last Revision Date: February, 2025

Supersedes: January, 2024

Product Details

Product Description

3M™ UV Activated Film 81000 series is a UV activated and curable film adhesive family, the film thicknesses offered are 10, 25, 50, 75, 100 micrometers. 3M UVAF 81100 is the 100 micron thickness delivered between two polyester silicone release liners. Before UV activation, 3M UVAF 81100 is stable and tacky at room temperature and can be easily converted into precision die cuts parts just like a pressure sensitive adhesive (PSA) transfer tape. Once activated with UV, the bond strength develops at room temperature, achieving green strength within an hour and semi-structural bond strength within 48 hrs. It is suitable to bond most Medium and High Surface Energy materials.

Product Features

- Full bond develops at room temperature within 48 hours following UV activation
- Excellent bond strength to metal surfaces
- Bonds non-UV transparent substrates
- Bond develops with very low shrinkage
- Good bond line visual appearance
- Performs and processes like a PSA tape before UV activation
- Die-cuttable for thin precision bonding

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 Uncured Physical Properties

Attribute Name	Value
Color	Clear, slightly yellow
Halogens (Cl, Br)	Compliant

Typical Physical Properties

Attribute Name	Value
Liner	PET release liner
Adhesive Thickness	0.1 mm
Primary Liner Thickness	0.038 mm
Secondary Liner Thickness	0.05 mm
Total Thickness with liner	0.188 mm

Typical Cured Characteristics

Test Method: ASTM D7028

Attribute Name	Value
Film Tension DMA E'	1,300 MPa [1]
Tg Glass Transition Temperature	44 °C [2]

[1] 1 Hz temperature ramp at 3 °C/min

[2] 1 Hz temperature ramp at 3 °C/min, Tg recorded as peak of tan Delta

Typical Performance Characteristics

Temperature: 23 °C (73 °F)

Attribute Name	Test Method	Dwell Time	Test Condition	Substrate	Backing	Value
180° Peel Adhesion	ASTM D3330	15 min	Uncured Film	Stainless Steel	2 mil PET	0.75 N/mm [1]
Overlap Shear Strength	ASTM D1002, ISO 4587	48 h		Anodized Aluminum		13.5 MPa [2]

[1] 300 mm/min (12 in/min)

[2] 25 mm (1) wide, 12.7 mm (1/2) overlap samples, Separation rate 10 mm/min

Handling/Application Information

Surface Preparation

A clean bonding surface is essential for maximum performance. For metals, chemical etching results in ultimate adhesion. Abrading the metal bonding surface with a 3M™ Scotch-Brite Pad, and cleaning with Methyl Ethyl Ketone (CAS# 78-93-3) will improve bond strength. For plastic bonding, cleaning the surface is recommended to remove oils, mold release agents, and solid contaminants prior to bonding. For preparing other substrates for bonding contact your 3M application or technical service
engineer.

Pre-Bonding (Pre-Tacking) Recommendations

To pre-bond or pre-tack the adhesive to the first substrate, remove easy liner and place/align the adhesive film on the first substrate with the release liner out. Adhesion is formed by applying pressure using a press, roller, clamping or similar equipment at 25°C with ~15 PSi pressure. For rolling, 20N pressure at a speed of 300mm/min is recommended.

Bonding and Curing Recommendations

When you are ready to make the final bond, remove the release liner, or keep the release liner if it is clear, and expose the adhesive to UV light. We recommend a 365nm LED UV lamp or similar wavelength, 3J/cm2 to activate UVAF. UV activation time needs to be adjusted based on different lamp intensity to achieve target dosage. Once UV triggered, within 10 minutes at 25°C, align and mate the first substrate with the second substrate. Clamp the substrates. Pressure will depend on joint design and part tolerance. Recommended starting pressure is 15PSi for 30 seconds. For rigid to rigid lamination, we strongly recommend that, upon bond closure, apply a 45PSi
pressure for 30 seconds. Adhesive will cure at RT and reach full state of cure at 24-48 hours. However, handling strength occurs after 30 minutes post UV activation. Optionally, to speed rate of cure, use a batch or continuous operation oven to reach an elevated adhesive temperature or use a hot bar heat sealer with pressure to achieve optimal bond strengths faster. Talk to your tech service representative for assistance with custom profiles.

Storage and Shelf Life

The shelf life of 3M™ UV Activated Film 81100 is 18 months from date of manufacture when stored in the original light blocking packaging and stored between 16°C and 27°C, below 50% relative humidity.

Information

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 specifications, test methods, 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. Final product specifications and testing methods will be outlined in the products Certificate of Analysis (COA) that is provided once the product is approved by 3M for general commercialization and development work is completed.

Safety Data Sheet: Consult Safety Data Sheet before use.

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.

Product 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. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

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