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 →

본 페이지는 스냅슛의 자료 제공 안내용 표지입니다. 첨부된 인증서 및 기술자료의 발행 주체, 인증 대상과 적용 범위는 해당 원문을 기준으로 확인해 주세요.

Technical Data Sheet

3M™ Self-Extinguishing Hot Melt Adhesive 3748 VO

Product Details

Regulatory Info/SDS

Product Description

3M™ Hot Melt Adhesive 3748 VO is a tough, flexible, thermoplastic hot melt, 100% solids adhesive which exhibits good peel adhesion and thermal shock properties along with higher heat resistance. It features excellent electrical properties which make it ideal for use on printed wiring board and other electronic bonding applications.
Hot Melt Adhesive 3748 VO is self-extinguishing and has a UL 94 VO rating. In addition to electronic applications, it is also useful in many general industrial bonding and sealing applications where a self-extinguishing characteristic is required.

Product Features

- Excellent Adhesion
- Good Electrical Properties
- Non Corrosive to Metal

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	Light Yellow [1]
Base Resin	Polyolefin

[1] Colors may vary from nearly white to yellow/amber. Adhesive performance is not affected by color variation.

Typical Physical Properties

Attribute Name	Temperature	Value
Specific Gravity		1.09
Ball & Ring Softening Point		152 °C (305 °F)
Weight Loss by TMA (In Air)	237 °C (459 °F)	1 % [1]
Weight Loss by TMA (In Air)	327 °C (621 °F)	5 % [1]
Weight Loss by TMA (In Air)	356 °C (672 °F)	10 % [1]
Viscosity	180 °C (356 °F)	8,500 cP
Viscosity	200 °C (392 °F)	5,000 cP
Viscosity	23 °C (73 °F)	3,300 cP

[1] Temperature of weight loss at 5 °C/min

Typical Cured Characteristics

Temperature: 23 °C (73 °F)

Attribute Name	Test Method	Value
Shore D Hardness	ASTM D2240	26

Typical Performance Characteristics

180° Peel Adhesion

Temperature: 23 °C (73 °F)
Test Method: 3M C3168

Substrate	Value
Wire Mesh to Fir	45.6 N/cm (416 oz/in) [1]
Wire Mesh to FR-4	66.6 N/cm (608 oz/in) [1]
Wire Mesh to Polyethylene	47.3 N/cm (432 oz/in) [1]
Wire Mesh to Polypropylene	61.3 N/cm (560 oz/in) [1]

[1] Test involves bonding 0.5 mm (0.02 in) wire mesh (galvanized window screen type) to substrate using hot melt adhesive. Wire mesh is encapsulated with adhesive. After conditioning, bond is tested by 180° peel back method using Instron at 254 mm/min (10 in/min).

Overlap Shear Strength

Temperature: 23 °C (73 °F)
Test Method: 3M C3096

Substrate	Value
FR-4	1.48 MPa (215 lb/in²) [1]
Fir	1.9 MPa (275 lb/in²) [1]
Polypropylene (PP)	1.72 MPa (250 lb/in²) [1]
Polyethylene (PE)	1.52 MPa (220 lb/in²) [1]

[1] 25 x 102 mm (1 x 4 in) Douglas Fir specimens bonded with hot melt adhesive, 25 mm (1 in) overlap and 0.3 mm (13 mil) wire spacer to set bond line thickness. 24 hours at 22 °C (70 °F), 50% relative humidity dwell. Shear separation at 51 mm/min (2 in/min) recording strength at failure.

Attribute Name	Test Method	Test Condition	Value
Two Pound Dead Load Heat Resistance	3M C3093		79 °C (175 °F) [1]
Thermal Shock Resistance	3M C3167	100 °C (air) ~ -40 °C (liquid)	Passes 5 cycles w/o cracking [2]

[1] 25 x 102 mm (1 x 4 in) Douglas Fir specimens, 25 mm (1 in) overlap shear. 24hr @ 22 °C (70 °F), 50%RH dwell. 14 kPa (2psi) load at 49 °C (100 °F) for 30 min. Bond line temp is raised every 30 minutes until failure. Heat resistance recorded is the last temp prior to bond failure.

[2] Potted Washer Olyphant test

Typical Environmental Performance

Solvent Resistance

Environmental Condition	Value
Immersed in Isopropyl Alcohol one hour	A [1]
Immersed in Acetone one hour	A [1]
Immersed In 1, 1, 1 - Trichloroethane one hour	B [1]
Immersed in Freon TF one hour	B [1]
Immersed in Freon TMC one hour	B [1]
Immersed in RMA Flux one hour	A [1]
Immersed in Isopropyl Alcohol 30 days	B [1]
Immersed in Acetone 30 days	B [1]
Immersed In 1, 1, 1 - Trichloroethane 30 days	C [1]
Immersed in Freon TF 30 days	C [1]
Immersed in Freon TMC 30 days	C [1]

Environmental Condition	Value
Immersed in RMA Flux 30 days	B [1]

[1] A = No attack
B = Slight Surface Attack/Softness
C = Severe Attack/Breakup

Electrical and Thermal Properties

Attribute Name	Temperature	Test Condition	Value
Coefficient of Thermal Expansion		-100 ~ -40 °C	-34 x 10^{-6} m/m/°C [1]
Coefficient of Thermal Expansion		-20 ~ 25 °C	154.5 x 10^{-6} m/m/°C [1]
Thermal Conductivity	41 °C (107 °F)		4.58 x 10^-4 Cal/s/cm/°C (1.1 x 10^-1 (btu-ft)/(h-ft^2-°F)) (1.92 x 10^-3 J/cm · s · °C) (19.2 W/m/K) [2]
Thermal Conductivity			6 x 10^{17} W/m/K

[1] CTE determined using TMA Analyzer using a heating rate of 10 °C per minute. Second heat values given.

[2] On 0.5 mm (0.02 in) samples

Attribute Name	Test Method	Temperature	Test Condition	Value
Dielectric Constant	ASTM D150	23 °C (73 °F)	100 Hz	2.3
Dielectric Constant	ASTM D150	23 °C (73 °F)	1 KHz	2.3
Dielectric Constant	ASTM D150	23 °C (73 °F)	10 KHz	2.3
Dielectric Constant	ASTM D150	23 °C (73 °F)	100 KHz	2.3
Dielectric Constant	ASTM D150	23 °C (73 °F)	1 MHz	0.001
Dielectric Constant	ASTM D150	23 °C (73 °F)	100 MHz	2.3
Dissipation Factor	ASTM D150	23 °C (73 °F)	100 Hz	0.002
Dissipation Factor	ASTM D150	23 °C (73 °F)	1 KHz	0.001
Dissipation Factor	ASTM D150	23 °C (73 °F)	10 KHz	0.001
Dissipation Factor	ASTM D150	23 °C (73 °F)	100 KHz	0.001
Dissipation Factor	ASTM D150	23 °C (73 °F)	100 MHz	0.001
Dielectric Strength	ASTM D149			2.3 V/µm
Dielectric Strength	ASTM D149			55.1 [1]
Volume Resistivity	ASTM D257	23 °C (73 °F)		4.5 x 10^{17} Ω-cm

[1] 11 mil (0.27 mm) sample

Handling/Application Information

Application Equipment

- 3M™ Hot Melt Applicator TC or TCQ
- 3M™ Hot Melt Applicator EC - Temperature Module #4
- 3M™ Hot Melt Applicator PG II

Industry Specifications

UL 94 - V0

Storage and Shelf Life

Store under normal conditions of 16° to 27°C (60° to 80°F) and 40 to 60% relative humidity in the original packaging, out of direct sunlight. For best performance, use this product within 24 months from date of manufacture.

Precautionary Information

Refer to Product Label and Material Safety Data Sheet for health and safety information before using this product. For additional health and safety information, call 1-800-364-3577

Information

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ISO Statement

This product was manufactured under a 3M quality system registered to ISO 9001 standards.

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