Scotch-Weld™ 3748 V0 Adhesive

Product Data Sheet

Updated : Dezember 2007
Supersedes: March 1996

Product Description

Scotch-Weld Adhesive 3748 V-0 is a tough, flexible hot melt adhesive which exhibits excellent low temperature thermal shock properties with good heat resistance. It shows high peel adhesion to many substrates especially normally hard to bond materials such as polypropylene and polyethylene. 3748 V-0 also exhibits excellent electrical and non-corrosive properties, and has a UL 94 fire rating of V-0.

Physical Properties
Not for specification purposes

Base	Polyolefin	
Colour	Pale Yellow	
Viscosity cP [1]	at 180℃ - 8500 at 200℃ - 5000 at 220℃ - 3300	
Temperature Control Setting	4	
FDA Accepted [2]	No	
Sizes Available	26 x 73 mm for the Jet-melt Air Powered Applicator. 15 x 203 mm for the Jet-melt Touch Control Quadrack Applicator. 15 x 48 mm for the Jet-melt Touch Control Applicator.	
Shelf Life	12 months from date of despatch by 3M when stored in the original carton at 21℃ (70℉) & 50 % Relative Humi dity	

1 Brookfield Thermosel Viscometer.
2 FDA Reg. 175.105 (adhesives) CFR Title 21.

Performance Characteristics
Not for specification purposes

Shore D Hardness (ASTM D 2240)	26	
Ball and Ring Softening Point [3]	152 ℃	
Heat Resistance	80 ℃	

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Performance Characteristics (Cont...)
Not for specification purposes

Overlap Shear Strength — 3M/AC & S Test Method C-3096

Substrate	OLS (psi)
FR-4 to FR-4	215
Fir to Fir	275
Polypropylene to Polypropylene	250
Polyethylene to Polyethylene	220

180° Peel Strength — 3M/AC & S Test Method C-3168

Substrate	Peel Strength (PIW)
Wire Mesh to FR-4	38
Wire Mesh to PP	35
Wire Mesh to PE	27
Wire Mesh to Fir	25

Thermal Shock Resistance Potted Washer Olyphant Test — 3M/AC & S Test Method C-3167

+100℃ (air) to -40℃ (liquid)	Pass 5 cycles

Thermal Co-efficient of Expansion	155 x 10^{-8} unit/unit/℃	
Thermal Conductivity (ASTM C 177) BTU-ft/sq ft-hr℉	.111	
Dielectric Constant at 1 KHz (ASTM D 150)	2.3 at 23℃*	
Dissipation Factor at 1 KHz (ASTM D 150)	0.0010 at 23℃*	
Dielectric Strength at 1 KHz (ASTM D 149)	1400 Volts/Thou*	
Volume Resistivity (ASTM D 257) at 500 Volts	6.0 x 17^{17} ohm-cm	
Surface Resistivity (ASTM D 257) ohms/square	4.5 x 10^{17}	
NB *	Data at different frequencies available on request.	

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	Solvent Resistance	(1 hour/30 days immersion)	
	In Acetone	A/B	A = No Attack
	In Isopropyl Alcohol	A/B	B = Slight Surface Attack
	In Freon TF	B/C	C = Severe Attack
	In Freon TMC	B/C	
	In 1,1,1 Trichloroethylene	B/C	
Applications	3748 V-0 is particularly suitable for the bonding and rigidisation of components on printed circuit boards where thermal and mechanical shock resistance is required.	3748 V-0 is also suitable for bonding low energy plastics such as polypropylene and polyethylene. Typical uses for 3748 V-0 include rigidising components, potting, wire fastening, sealing connectors, vibration	protection, stabilising loose components, coil termination, coil attachment, holding components prior to soldering, insulation of bare conductors, polyolefin box bonding and sealing polyolefin coated carbon boxes.
Specifications	U.L. Recognition (File No. E.16941)	**UL94** Flammability V-0.	
Health and Safety Information	Refer to product label and Material Safety Data Sheet for health and safety information before using the product. For information please contact your local 3M Office www.3M.com		

Important Notice

All statements, technical information and recommendations contained in this document are based upon tests or experience that 3M believes are reliable. However, many factors beyond 3M's control can affect the use and performance of a 3M product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method or application. All questions of liability relating to this product are governed by the terms of the sale subject, where applicable, to the prevailing law

Values presented have been determined by standard test methods and are average values not to be used for specification purposes.
Our recommendations on the use of our products are based on tests believed to be reliable but we would ask that you conduct your own tests to determine their suitability for your applications.
This is because 3M cannot accept any responsibility or liability direct or consequential for loss or damage caused as a result of our
recommendations.

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