



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



3M™ Scotchcast™ Electrical Insulating Resin 2104

Data Sheet

January 2015

Description

3M™ Scotchcast™ Electrical Insulating Resin 2104 is a hard two-part, polyurethane resin encapsulant designed especially for permanent splice protection. Scotchcast resin 2104 is formulated for virtually every electrical application requiring a hard, non-reenterable resin with good handling and performance characteristics. Scotchcast resin 2104 is also used as the insulating material for cable splices operating at 1000 volts or less and is rated for continuous use at 194°F (90°C) with an overload rating of 266°F (130°C). It may be stocked to cover all hard resin needs, ending the need for multiple encapsulant inventories.

Scotchcast resin 2104 is a two-part polyurethane, and is formulated with excellent wetting properties and low viscosity. Scotchcast resin 2104 flows well, even at low temperatures, filling the enclosure completely and eliminating voids.

Resin Features:

- Bonds to all modern cable jackets
- Bonds to itself
- Available in two-part closed mixing pouch for easy mixing and pouring
- Tough
- Excellent multi-purpose moisture sealing resin
- Semi-flexible
- Room temperature cure
- Low viscosity
- Color: Dark Green

Agency Approvals & Self Certifications

For RoHS information, please visit www.3M.com/ROHS

Resin Applications

- Replace or repair the jacket on both single and multi-core power cables
 - Insulate between conductors of multi-core splices operating at 1000 volts or less
 - Seal the crotch or sheath when terminating multi-core cables
 - Potting cable or wire encasements
 - Potting cable fittings & splices
 - Potting printed circuit boards
 - Potting junction boxes
 - Filling back shell connectors
 - Potting for motor repairs
-

3M™ Scotchcast™ Electrical Insulating Resin 2104

Typical Physical and Electrical Properties

Not for specifications. Values are typical, not to be considered minimum or maximum. Properties measured at room temperature 73°F (23°C) unless otherwise stated.

Physical Properties (Test Method)	Typical Value US units (metric)
Color	Green
Hardness (ASTM D2240)	70 Shore A
Density (ASTM D792)	0.596 oz/in ³ (1,03 g/cu.cm.)
Tensile Strength (ASTM D412)	444 psi (3.06 MPa)
Elongation (ASTM D412)	98%
Glass Transition Temperature (ASTM E1356-03)	-94°F (-70°C)
Maximum Exotherm , (100g) (ASTM D2471-99)	150°F (65°C)
Gel Time (ASTM D2471-99)	18 minutes
Viscosity (cP) @ 77°F (25°C) (3M Method TM-173) Part A Prepolymer Part B Polyol	1,000 - 2,300 450 - 750
Specific Gravity (ASTM D891) Part A Prepolymer Part B Polyol	1.04 1
Moisture Absorption	0.28% wt. gain in 168 hrs
Adhesion to Metals (lb/in²) (3M TM-456) Copper Brass Steel Aluminum	411.6 285.1 558 207.03
Adhesion to Cable Jackets (lb/in²) (3M TM-457) Vinyl Neoprene Nylon XLPE	10.5 140.8 >25.5 221.5

Electrical Properties (Test Method)	Typical Value
Dielectric Strength (ASTM D149)	524 V/mil
Dielectric Constant, @ 60Hz (ASTM D150)	4.59 pf @ 73°F (23°C) 6.8 pf @ 194°F (90°C)
Dissipation Factor, @ 60Hz (ASTM D150)	9.1% @ 73°F (23°C) >200% @ 194°F (90°C)

3M™ Scotchcast™ Electrical Insulating Resin 2104

Usage & Handling

IMPORTANT:

Product should remain in the sealed container/envelope until ready to use. In cold weather, warm closed mixing pouch to 60°F (16°C) or warmer before mixing. Keep in a warm area, such as truck cab or inside pocket, until ready to use.

General Instructions

Closed Mixing Pouch:

- Tear open the protective envelope and remove the closed mixing pouch
- Before breaking the barrier, squeeze the bag to premix the separate components.
- Firmly grasp each flat side of the bag near the center barrier, while pulling the sides of the barrier apart and rolling the sides of thumbs through the barrier. Break the barrier all the way across to the side seals.
- Alternately squeeze each end of the bag, forcing the resin back and forth (30 seconds).
- Strip the resin from the corners of the bag and continue to mix until the color is uniform (additional 2 minutes, maximum).
- Clip off a corner of the closed mixing pouch and pour

Bulk Components:

Measure the appropriate quantity of each component as indicated in the table below, then thoroughly mix to a uniform color and consistency prior to use. Opened bulk components should be blanketed with nitrogen to prevent moisture contamination.

Component	Color	Weight Ratio (w/w)	Volume Ratio (v/v)
Part A	Pale Yellow	1	1.04
Part B	Black	1	1

Typical Cure Time:


Temperature	Approximate Cure Time
70°F (21°C)	1 hour
20°F (-4°C)	20 hours
32°F (0°C)	36+ hours

NOTE: Values are typical, not to be considered minimum or maximum.

Safety Precautions:

Read all Health Hazard, Precautionary and First Aid statements found in the Safety Data Sheet (SDS) and/or product label of chemicals prior to handling or use.

Wear protective gloves when using this product.

 CAUTION
Working around energized electrical systems may cause serious injury or death. Installation should be performed by personnel familiar with good safety practice in handling electrical equipment. De-energize and ground all electrical systems before installing product.

3M™ Scotchcast™ Electrical Insulating Resin 2104

Shelf Life & Storage

3M™ Scotchcast™ Electrical Insulating Resin 2104 has a 2-year shelf life from date of manufacture when stored in the factory-sealed packaging under humidity controlled storage (10°C/50°F to 27°C/80°F and <75% relative humidity).

Availability

Please contact your local distributor or call 1.800.245.3573.

3M and Scotchcast are trademarks of 3M Company.

Important Notice

All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product, which are not contained in 3M's current publications, or any contrary statements contained on your purchase order, shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.

Warranty; Limited Remedy; Limited Liability

This product will be free from defects in material and manufacture at the time of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. **Except where prohibited by law, 3M will not be liable for any direct, indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.**



Electrical Markets Division

6801 River Place Blvd.
Austin, TX 78726-9000
800.245.3573
Fax 800.245.0329
www.3M.com/electrical

Please recycle
© 3M 2015 All rights reserved
78-8141-6643-1 Rev B