

3M Scotchcast™



RoHS
2002/95/EC
REACH
1907/2007/EC

Electrical Insulating Resin 40

Product Description

3M™ Scotchcast™ Resin 40 is a non-filled, two component polyurethane resin for room temperature curing. The resin has been designed for electrical insulation and mechanical protection of electrical cables joints.

The 40 resin is classified as LIW (low voltage insulation water curable) according to Cenelec HD 631.1 S2 Standard.

Once cured, the resin provides impact resistance and durability against moisture and atmospheric corrosion.

Application

Mechanical protection and electrical insulation of low voltage electrical joints installed for indoor and outdoor, underground and submerged applications.

Features

Good adhesion on metals and different plastics.

Hydrophobic behaviour during curing stage.

Excellent hydrolytic stability

Available with Closed Mix and Pour Delivery System

Low exothermic reaction temperature.

Process Figures

Mixing Ratio (pbw)	A : B	100 : 46
Pot Life	At 5 °C	35min
	At 23°C	18min
	At 40°C	9min

Typical Properties

Note: This data is not to be used for specifications.

Values listed are typical and should not be considered minimum or maximum.

Property	Value	Specification
Part A		
Density	0,99 g/cm ³	ISO 3675
Viscosity 23°C	1040 mPas	EN ISO 2555
Property	Value	Specification
Part B		
Density	1,24 g/cm ³	ISO 3675
Viscosity 23°C	210 mPas	EN ISO 2555

Property	Value	Specification
Part A&B (mixed)		
Density	1,06 g/cm ³	ISO 3675
Viscosity 5°C	2500 mPas	EN ISO 2555
Viscosity 23°C	900 mPas	EN ISO 2555
Exothermic Reaction Temp 40°C	104 °C	HD 631.1 S2
Hydrophobic Behaviour	≤ 10 ml	HD 631.1 S2
Volume Shrinkage	3,4 %	EN ISO 3521

Part A&B (cured*)

Mechanical properties

Hardness Shore D	56	EN ISO 868
Tensile Strength	17 MPa	EN ISO 527
Elongation at Break	87 %	EN ISO 527
Impact Strength (without notch)	No break	EN ISO 179

Electrical properties

Volume resistivity		IEC 60250
at 23 °C	3,89E+14 Ωcm	
at 80 °C	4,32E+10 Ωcm	
Dielectric Strength		EN 60243-1
at 23 °C	36 kV/mm	
Dissipation factor		IEC 60250
at 23 °C	<0,05	
at 80 °C	<0,142	
Dielectric constant		IEC 60250
at 23 °C	4,9	
at 80 °C	8,9	

Electrical properties after dry ageing

Volume resistivity		IEC 60250
at 23 °C	> 1,0E+14 Ωcm	
Dielectric Strength		EN 60243-1
at 23 °C	38 kV/mm	
Dielectric constant		IEC 60250
at 23°C	<10	

Electrical properties after wet ageing

Volume resistivity		IEC 60250
at 23 °C	> 1,0E+14 Ωcm	
Dielectric Strength		EN 60243-1
at 23 °C	34 kV/mm	
Dielectric constant		IEC 60250
at 23 °C	<10	

*curing and aging cycles according to Cenelec HD631.1 S2

Usage Information

The resin will be supplied, in two-chamber plastic pouches with peelable barrier in the correct stoichiometric proportion. This type of packaging will assure the correct mixing ratio for applying the resin.

The packaging includes a Closed Mix and Pour Delivery System. The integrated pouring spout will be opened while attaching the mixed resin bag to the housing of the joint or by using the supplied opener.

For other information, relevant for the usage of the resin, like Gel-Time, Pot-Life, viscosity, density etc. please see above the typical properties.

Storage

3M™ Scotchcast™ Resin 40 has a shelf life of at least 36 months when stored between 10°C and 40°C with a humidity level < 75 % in the originally sealed bag.

The expiration date of each product appears on the product label.

Storage beyond the date specified on the label does not necessarily mean that the product is no longer usable. In this case however, it is the responsibility of the user to determine applicability of the resin.

Safety and Handling

3M provides its customers with a product specific Material Safety Data Sheet (MSDS) to cover potential health effects, safe handling, storage, use and disposal information. 3M strongly encourages its customers to review the MSDS on its products prior to their use.

Product Stewardship

3M has a fundamental concern for all who make, distribute and use its products, and for the environment in which we live. This concern is the basis of our philosophy and policies by which we assess the health and environmental information on our products and then take the appropriate steps to protect employee, the public health and the environment.

Customer Notice

3M encourages its customers and potential users of 3M products to review their applications for such products from the standpoint of human health and environmental quality. To help ensure that 3M products are not used in ways for which they were not intended or tested. 3M personnel are available to assist customers in dealing with ecological and product safety considerations. Your 3M sales representative can arrange for the proper contacts.

Regulatory Status

The 40 Resin is in compliance to EU directive 2002/95/EC (RoHS) and EU regulation 1907/2007/EC (REACH)

3M and Scotchcast are trademarks of 3M Company

Important Notice

All statements, technical information and recommendations related to the Seller's products are based on information believed to be reliable, but the accuracy or completeness thereof is not guaranteed. Before utilizing the product, the user should determine the suitability of the product for its intended use. The user assumes all risks and liability whatsoever in connection with such use.

Any statements or recommendations of the Seller which are not contained in the Seller's current publications shall have no force or effect unless contained in an agreement signed by an authorized office of the Seller.

The statements contained herein are made in lieu of all warranties, expressed or implied, including but not limited to the implied warranties of merchantability and fitness for a particular purpose which warranties are hereby expressly disclaimed.

SELLER SHALL NOT BE LIABLE TO THE USER OR ANY OTHER PERSON UNDER ANY LEGAL THEORY; INCLUDING BUT NOT LIMITED TO NEGLIGENCE OR STRICT LIABILITY; FOR ANY INJURY OR FOR ANY DIRECT; INDIRECT; INCIDENTAL OR CONSEQUENTIAL DAMAGES SUSTAINED OR INCURRED BY REASON OF THE USE OF ANY OF THE SELLER'S PRODUCTS.

Electrical Markets Division

3M United Kingdom PLC

Sales Office

PO Box 393

Bedford MK41 0YE

Telephone: 0870 609 4639

Fax: 01234 229 433

3M Ireland Ltd

Sales Office

The Iveagh Building, The Park,

Carrickmines, Dublin 18, Ireland

Telephone: (01) 800 812 732

Fax: 353 1 280 3509

3M United Kingdom PLC

Head Office

3M Centre, Cain Road

Bracknell, Berkshire RG12 8HT

Telephone: 01344 858 000

Fax: 01344 858 758