Speed
Safety
Reliability

3M™ Scotchcast™
Hazardous Area LV Cable Joints

3M™ Electrical Markets Division

The success of 3M™ is founded on listening to the customer's needs and applying technology to offer a solution. With hundreds of technology platforms 3M has an ongoing commitment to research and development.

Within the Electrical Markets Division this method of working has not only led to the development of the first ever vinyl insulation tape, but also the conception of many resin jointing techniques as we know them today through the introduction of 3M™ Scotchcast™ Resin Bags & Joints more than 35 years ago. Our commitment to innovation in this area has now led to the development of a new generation of LV resin jointing products that are unique in the electrical contracting sector. These products are designed to make the installation process simpler and safer; saving time and money for the contractor while maintaining the level of quality and reliability our customers have come to expect from 3M. We strive to be the chosen supplier not only because of our innovative and efficient products, but also our commitment to service and support for your business.

3M™ Hazardous Area Cable Joint

Our design is based around a high quality BS EN 50393 compliant product, conventional re-insulation techniques using self amalgamating tapes, and specialist resin encapsulation.

Once the joint has been completed electrically it is surrounded within a specialised joint shell which is flame retardant, hydrocarbon resistant, and halogen free. The joint is then filled with a polyurethane resin (3M ref 1402FR) which has been highly modified by the inclusion of various chemical additives. These additives make the resin flame retardant, halogen free, and virtually unaffected by immersion in either hydro-carbons or chemical solvents.

3M have been supplying cable accessories and resin for use in hazardous areas for in excess of 25 years and have carried out extensive research into the effects of hydro-carbons and chemical solvents on resin encapsulants.

Resin is fully compliant with the latest European legislation (Reach & RoHS)

3M™ 1402FR high quality, highly modified polyurethane resin

Speed Safety Reliability

Earthing Method

To avoid awkward manipulation of armour wires while trying to fit worm drive clips over support rings, we have chosen to use constant force springs as our preferred earthing method - a quick and easy solution requiring the minimum of fuss and no extra tooling.

Hydrocarbon Resistant Resin

Due to their chemical formulation, Cold Pour Electrical resins can decay in the presence of hydro-carbons or chemical solvents.

The polymer chain “backbone” of the resin is attacked and, once broken by hydro-carbon or chemical solvents, the resin will revert back to its original liquid components.

Our test results show how different resin types are affected when immersed in either petrol/diesel or a highly aggressive combination of chemical solvents.

Rapid deterioration is most clearly pronounced in low cost, standard PUR resin. Epoxy resins offer better performance over these low cost resins, but can also be adversely affected when exposed to some of the test liquids.

3M 1402FR high quality, highly modified polyurethane resin, demonstrates superior performance above all the other resin types. It is for this reason that 1402FR resin is supplied in the range of 3M hazardous area cable joints covering instrumentation, control cables and power cables rated up to 3.3kV.

Joint shell and Resin is flame retardant;
hydrocarbon resistant and halogen free

Hazardous Area Range
Designed for specialist applications where hydrocarbons are present.

Kit Type	Resin	Resin Mould	Power	Instrumentation and control
Hazard Area	#1402FR	Translucent	✔	✔

3M™ Scotchcast™ LV Resin Bags

Our innovative new resin bag is designed to eliminate almost any chance of skin contact and reduce vapour inhalation from the resin itself. Furthermore, it gives the user superb control over the resin mixing and pouring process; avoiding unnecessary spills and wastage.

Our Resin Range

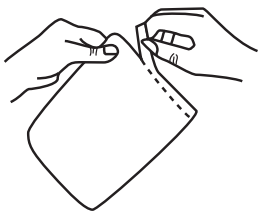
It is the quality of our resins for which we are best known and the foundation on which many of our customers keep choosing 3M time and time again. When it comes to peace of mind and confidence in a job well done then second best just isn't enough. Alongside the development of a new resin delivery system, we have also re-developed our resin compounds to comply with EU environmental and user safety regulation changes.

	# 1402FR Hydrocarbon Resistant
Type	Polyetherurethane
Form	2 Part
Density (g/cm³)	1.6
Viscosity at 23°C (Pas)	2.5
Hardness (Shore D)	75
Elongation at break (%)	2
Pot life at 23°C (min)	20
Dielectric strength (kV/mm)	20
Exotherme Reaction (°C) - Temp 40°C	65

2-part resin bag

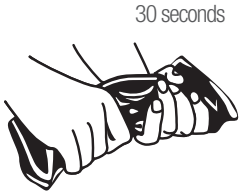
Activation nozzle

How the new resin bags work…



① Open the foil outer pack

② Pull apart the partition seal



③ Mix the 2 resins thoroughly

④ Ensure all resin is freed from the corners

⑤ Mix thoroughly again

⑥ Activate nozzle and pour resin

Helping Contractors Make the Change

Product Training and Demonstration

We take training seriously and have a long track record of working closely with our customers to give them the best 3M product training possible. Of course, the design of our products helps to ensure consistently high installation quality. We recognise that the right installation techniques mean that work is carried out more accurately, safely and quickly. Most importantly, training helps joints and terminations to last longer with reduced failure risk, giving you a better return on your investment.

Product Demonstrations

Fully demonstrate and install 3M products into pre-prepared cables

Product Installation Training

3M product installation training and cable preparation requirements

Utility Approved Product Installation Training

We can recommend the correct company for training

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