Technical data sheet

FR 212 HM SERIES PUTTY

DESCRIPTION:

FR 212 HM is a high density polyester-based compound formulated specifically for the fibreglass industry to provide fire retardant properties. It will gel and cure @ room temperature by adding methyl ethyl ketone peroxide catalyst. FR 212 HM can be used as a filling compound and has good adhesion to cured fibreglass reinforced polyester laminates.

FEATURES AND BENEFITS

- Can meet flame-retardant properties.
- FR 212 HM is easily applied by using an appropriate tool such as spatula or a trowel.
- Formulated to use with a MEKP catalyst made of methyl ethyl ketone peroxide.
- Available in 20 litres pails and 205 litres drums.

TYPICAL PROPERTIES @ 25°C (77°F):

These values may or may not be manufacturing control criteria; they are listed for a reference guide only. Particular batches will not conform exactly to the numbers listed because storage conditions, temperature changes, age, testing equipment (type and procedure) can each have a significant effect on the test results. Putty with properties outside of these values can perform acceptably.

Test	
Styrene Content, solids and more see MSDS	
Viscosity, Brookfield RV T-E @ 20 rpm	130 000 - 160 000 cps
Thixotropic Index 1/10	> 6
Gel Time (1,5% Norox MEKP-9)*	18 - 28 minutes
Specific gravity	1,25 – 1,29 g / ml
*tested @ 25°C in 100 g mass	
Shelf life:	90 days

CURE:

It is recommended that gel time be checked in the customer's plant because age, temperature, humidity and catalyst will produce varied gel times. All data referencing gel or cure refers specifically to Syrgis NOROX MEKP-9 catalyst 1,5%. Do not use under 18°C.

The catalyst level should not exceed 2,0% and not below 1.0 % if use @ room temperature, for proper cure. Recommended rate is 1.5 % at 25°C 77°F depending of material temperature, room temperature, humidity, air movement, and catalyst concentration. Fast cure products have shorter stability and should not be inventoried over 30 days. These products (standard or fast-

cure) should not be used when temperature conditions are below 15 °C or 60 °F, as curing and fire resistance properties may be adversely affected.

When the part reaches ultimate cure depends upon time, temperature and satisfactory catalization. Too much or too little catalyst can result in permanent under-cure, which cannot be overcome. Practically speaking, serviceable cure time will range from overnight from a week and occasionally longer due to circumstances. Small, properly catalyzed, thin laminates that do not exotherm and do not receive external heat may take months or years to achieve ultimate physicals. Sufficient external heat can reduce the cure time to less than a day.

POLYESTER SAFETY INFORMATION

All sales of products manufactured by Polynt Composites, and described herein are made solely on condition that POLYNT Composites' customers comply with applicable health and safety laws, regulations and orders relating to the handling of our products in the workplace. Before using, read the following information and both the product label and Material Safety Data Sheet pertaining to each product.

Most polyester products contain styrene. Styrene can cause eye, skin and respiratory tract irritation. Avoid contact with eyes, skin and clothing. Impermeable gloves, safety eyewear and protective clothing should be worn during use to avoid skin and eye contact. Wash thoroughly after use.

Styrene is a solvent and may be harmful if inhaled. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Extended exposure to styrene at concentrations above the recommended exposure limits may cause central nervous system depression causing dizziness, headaches or nausea and if overexposure is continued indefinitely, loss of consciousness, liver and kidney damage.

Do not ingest or breathe vapor, spray mists and dusts caused by applying, sanding, grinding and sawing polyester products. Wear an appropriate NIOSH/MSHA approved, properly fitted, respirator during application and use of these products until vapors, mists and dusts are exhausted, unless air monitoring demonstrates vapors, mists and dusts are below applicable exposure limits. Follow respirator manufacturer's directions for respirator use. The International Agency for Research on Cancer (IARC) has reclassified styrene as Group 2B "possibly carcinogenic to humans." This new classification is not based on new health data relating to either humans or animals, but on a change in the IARC classification system. The Styrene Information and Research Center does not agree with the reclassification and has published the following statement: Recently published studies tracing 50,000 workers exposed to high occupational levels of styrene over a period of 45 years showed no association between styrene and cancer, no increase in cancer among styrene workers (as opposed to the average among all workers), and no increase in mortality related to styrene.

Styrene is classified by OSHA and the Department of Transportation as a flammable liquid. Flammable polyester products should be kept away from heat, sparks, and flame. Lighting and other electrical systems in the work place should be vapor-proof and protected from breakage.

Vapors from styrene may cause flash fire. Styrene vapors are heavier than air and may concentrate in the lower levels of molds and the work area. General clean air dilution or local exhaust ventilation should be provided in volume and pattern to keep vapors well below the lower explosion limit and all air

contaminants (vapor, mists and dusts) below the current permissible exposure limits in the mixing, application, curing and repair areas.
If the label or Material Safety Data Sheet indicates lead or lead chromate is present, do not use on toys, furniture or surfaces that might be chewed by children. Wash hands thoroughly after using and before smoking or eating. Long-term overexposure by inhalation or ingestion of mists and dusts from products containing lead compounds and lead chromate can cause harmful effects to the urinary, blood, reproductive and nervous systems and may create risk of cancer. Use a respirator as explained in Paragraph 4 of this Information Sheet.

Some polyester products may contain additional hazardous ingredients. To determine the hazardous ingredients present, their applicable exposure limits and other safety information, read the Material Safety Data Sheet for each product (identified by product number) before using. If unavailable, these can be obtained, free of charge, from your Polynt Composites representative or from: our office tel 819 477-4516.

Polyester products have at least two components that must be mixed before use. Any mixture of components will have hazards of all components. Before opening the packages, read all warning labels. Observe all precautions.

Keep polyester containers closed when not in use. In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations. Emptied containers may retain hazardous residue. Do not cut, puncture or weld on or near these containers. Follow container label warnings until containers are thoroughly cleaned or destroyed.

FOR INDUSTRIAL USE AND PROFESSIONAL APPLICATION ONLY

KEEP OUT OF REACH OF CHILDREN

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DISCLAIMER AND LIMITATION OF LIABILITY

The products sold hereunder shall meet Seller's applicable specifications at the time of shipment. Seller's specifications may be subject to change at any time without notice to Buyer. Buyer must give Seller notice in writing of any alleged defect covered by this warranty (together with all identifying details, including the Product Code(s), description and date of purchase) within thirty (30) days of the date of shipment of the product or prior to the expiration of the shipment's quality life, whichever occurs first. THE WARRANTY DESCRIBED HEREIN SHALL BE IN LIEU OF ANY OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.

The Buyer's sole and exclusive remedy against Seller shall be for the replacement of the product or refund of the purchase price in the event that a defective condition of the product should be found to exist by Seller. NO OTHER REMEDY (INCLUDING, BUT NOT LIMITED TO, INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR LOST PROFITS, LOST SALES, INJURY TO PERSON OR PROPERTY, OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL LOSS) SHALL BE AVAILABLE TO THE BUYER.

The sole purpose of this exclusive remedy shall be to provide Buyer with replacement of the product or refund of the purchase price of the product if any defect in material or workmanship is found to exist. This exclusive remedy shall not be deemed to have failed its essential purpose so long as Seller is willing and able to replace the defective products or refund the purchase price.

To the best of our knowledge, the information contained herein is accurate.

Final determination of the suitability of the material for the use contemplated the manner of use and whether the suggested use infringes any patents is the sole responsibility of the buyer.