



Product Bulletin

MARBALEASE® IMR-1

Internal Mold Release

General Product Information

MARBALEASE® IMR-1 Internal Mold Release is a liquid process aid for use in the pultrusion thermoset composite production method with Polyester, Vinylester and diallyl phthalate phenolic (DAP) pultrusion resins. Typically added at rates of 0.5 – 2.0% to the pultrusion resin formulation, *MARBALEASE® IMR-1 Internal Mold Release* aids the release of pultruded composite from the die wall as the composite moves through the die. With a superior neutralization package it offers corrosion resistance to metal dies and improved processability. Contains no wax, silicone or metallic stearates. Benefits can include improved part mechanical and cosmetic properties by improving wetting of the reinforcement, better dispersion of fillers and other additives, reduced matrix viscosity, enhanced antistatic properties, and lower pulling force requirements during processing of pultruded composites. *MARBALEASE® IMR-1 Internal Mold Release* is a non-exuding polymeric blend of phosphate esters, fatty amines, and fatty acids, allowing parts to emerge ready for post-finishing without solvent wash or abrasion. *MARBALEASE® IMR-1 Internal Mold Release* is specified for or use with polyester and vinylester resins using BPO, Peroxydicarbonates and esters, TBPB, Dicumyl Peroxides, and Peroxyketal Peroxides. Also useful when mixed into thermoplastics and rubbers at 0.1-1.0% levels by weight.

Evaluation

Prior to use in production an experimental examination of the influences that *MARBALEASE® IMR-1 Internal Mold Release* has on the pultrusion processing variables should be performed. Testing of the effects on pull force, surface appearance, resin viscosity, and resin kinetics should be conducted as well as any effects on mechanical properties of the pultruded composites. For example, start an evaluation at 1 part per 100 parts (0.1 – 1.0% wt.) neat resin. The percentage mold release required will be determined by the amount of filler with the upper limit determined at the point where it retards the cure. Adjust the level of mold release or increase the catalyst level within the range specified by the resin manufacturer.

Directions for Use

Consult Material Safety Data Sheet (MSDS) prior to use. *MARBALEASE® IMR-1 Internal Mold Release* should always be used in a well-ventilated area with appropriate personal protection equipment, including solvent resistant gloves and eye protection.

Mix *MARBALEASE® IMR-1 Internal Mold Release* prior to use. Add *MARBALEASE® IMR-1 Internal Mold Release* at ratio determined by evaluation to neat resin prior to addition of catalyst, fillers, and other resin additives.

DISCLAIMER: The information and recommendations contained herein are, to the best of our knowledge, accurate and reliable. No guarantee of their accuracy is made, however, and the products discussed are sold without warranty, express or implied, and upon condition that purchasers shall make their own tests to determine the suitability of such products for their particular purposes and uses. Revised February 3, 2010.