

Envirotherm 170WF Resin

Product Features

The Envirotherm 170WF Resin is a warm box resin designed to give high tensile strength with improved humidity resistance, for use in a broad variety of casting applications. This binder is characterized by the following product features:

- Low free formaldehyde
- High tensile strength
- Excellent resistance to humidity
- Good collapsibility
- Less smoke and lower odor at mixing
- Good bench life characteristics

Product Description

Envirotherm 170WF, like other warm box resins, is a high furfuryl alcohol content copolymer. Such resins are catalyzed by acidic solutions of various salts. The resin, catalyst, and a release agent are mixed with sand, providing a sand mix with long shelf life. This mixed sand is blown into a pattern that is heated between 300°F and 450°F. The heat from the pattern highly accelerates the cure of the resin to an insoluble, infusible solid. The core remains in the box long enough to develop adequate strength for handling. It is then ejected, and curing continues as the core cools.

Typical sand mixes contain 0.8% to 1.5% resin, based on sand, and 20% 6500E Warm Box Catalyst based on resin weight. Most users add 0.5-1.0% (BOR) Silane W to improve strength and humidity resistance. Silane W can be added as a third part or added to the resin within eight hours of usage. It will lose its effectiveness after eight hours. Factors requiring an increase in resin content are sand with a high grain fineness number, angularity, impurities, and use of dry sand additives.

Batch, low speed continuous, or high speed continuous mixes may be used with the Envirotherm 170WF resin system. Typical mixing times for a batch mixer are two (2) minutes for the catalyst, then an additional two (2) to three (3) minutes after the resin and release agent addition, but mixing times depend on the equipment being used. With any type of mixer, the final sand mix should be free of resin balls and uncoated sand.

Typical Physical Properties

Viscosity, cps	30-90
Free Formaldehyde, %	<0.9
Density (lb./gal.)	10.00

Performance Characteristics

The resin composition provides both high hot strength and good collapsibility. Curing times are dependent on core size, configuration, sand type and ADV, and core box temperature. Typical cure times range from 10 to 60 seconds or more. Because curing of the core continues after ejection from the box, cores should not be poured on for 1-2 hours after manufacture, depending on their size. If cores are to be washed with a water-based coating, they should be coated immediately after ejections, and dried in an oven.

Storage Guidelines

Recommended storage temperature is between 60 - 80 ° F. At lower temperatures, viscosity will increase, making pumping and mixing more difficult. At higher temperatures, the shelf life of this product will be reduced. Drum storage should be in a dry area, out of direct sunlight. Partially used drums should be tightly closed to prevent contamination. The recommended stock rotation is six months when properly stored.

Safe Handling

Chemically resistant gloves and eye protection should be used when handling or using chemical binders. Material Safety Data Sheets are available for all products. Drum labels also contain handling information. This material will react with acid materials or the acid catalyst. Refer to the Material Safety Data Sheet for additional information.

Technical Service

Let HA International be “The Best Total Solution” for your foundry by providing innovative products, in-depth technical assistance, and a diverse product line specially formulated for any foundry application. Both our in-house and field experts are available to assist you with your most challenging foundry applications. Contact your sales representative for additional technical information.

For Emergency Medical Assistance Please Call:
Health & Safety Information Services: 1-866-303-6949

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION BY SELLER, except that the product shall conform to contracted specifications, and that the product does not infringe any valid United States patent. The information provided herein was believed by Seller to be accurate at the time of preparation or prepared from sources believed to be reliable but it is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of product and to determine the suitability of the product for its intended use. Buyers exclusive remedy shall be for damages and no claim of any kind, whether to product delivered or for non-delivery of product and whether based on contract, breach of warranty, negligence or otherwise shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.