

mcu insulat 230

Product and technology description

Single component waterborne acrylic polymer with insulative microspheres.

Product usages

MCU-Insulat 230 is a liquid ceramic insulation coating, consisting of a mixture of ceramic beads blended into a high quality acrylic polymer binder system. MCU-Insulat 230 is designed to provide thermal insulation for a variety of industrial applications, providing an effective, inexpensive alternative to the high cost of typical insulation systems. Due to its excellent reflectivity and emissivity, MCU-Insulat 230 excels at insulating structures and equipment from radiant energy gain. 98% of the radiant energy that comes in contact with MCU-Insulat 230 is either reflected or re-emitted, meaning only 2% of the radiant energy is absorbed. MCU-Insulat 230 also performs very well at protecting personnel from burn hazards on hot or cold structures and equipment. Because it physically adheres to the surface, MCU-Insulat 230 significantly reduces corrosion and rust formation. MCU-Insulat 230 is extremely lightweight and pliable, therefore, it expands and contracts with the surface to which is applied. The use of MCU-Insulat 230 in place of other insulation, reduces both the space and weight for any given structure or piece of equipment. MCU-Miozinc can be used as anticorrosive primer for temperature range up to 145°C. For higher temperatures up to 420°C MCU-Zinc HH can be used.

Technology features

Excellent radiant reflectivity and emissivity properties significantly reduces radiant energy gain.
Low thermal conductivity - good conductive insulation properties.
Very good burn safety characteristics excellent for personnel protection.
Light weight - less weight than other insulations.

Good adhesion - bonds well to a variety of substrates.
Moisture resistant - helps to prevent corrosion and rust formation.
Easy application/installation - installs in much less time than other insulations
Reduces or eliminates condensation.

Area of use

Pipe and valve insulation.
Tank insulation.
Roof coating

Interior and exterior wall insulation.
Interior and exterior ducting.

Specifications

Resin type: waterborne
Pigment type: insulative pigment
Sheen: matt
Colours: white and grey
Volume solids: 79% ± 2.0

Recommended film thickness

Wet: 1325 - 6220 microns (52 - 260 mils)
Dry: 1000 - 5000 microns (39 - 197 mils)
Multiple coats are required to obtain greater thickness!

Recommend per coat

Wet: 400 - 1060 microns (16 - 42 mils)
Dry: 300 - 800 microns (12 - 31 mils)

Drying times and temperatures

At 50% relative humidity and 24°C (72°F): tack free: 180 min - recoat minimum: 12 hours - full cured: 24 hours

Application

Mixing

Power mix contents of container using a mud paddle at maximum 300 rpm or less for 2-3 minutes, making sure to blend in all solids on top of container.

Surface temperature

Minimum 10°C (50°F), maximum 190°C (392°F) and 3°C above dew point. Coating will not dry below 10°C (50°F). Prior to applying to substrates at temperatures greater than 68°C (150°F), please contact your MCU-Coatings Representative for assistance.

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Application

Methods and Equipment

Apply MCU-Insulat 230 on a dry, clean substrate which is free from oil, grease, wax, dirt, rust or corrosion. Use airless sprayer with 2500 PSI (172 Bar), 1.25 GPM, 28:1 ratio with a 0.21 - 0.23 tip size. An AR-1 Spray Gun using shop air may be used for small applications. Allow product to completely dry between coats. This is a one-coat system with dry time of 12 hours under room temperature conditions. Elevating temperature of substrate will accelerate recoat time. Brush may be used for touch up, but is not recommended for full application, except for under 500 ft² (see application Specifications & Instructions). For roof application all applicators should wear sun glasses. For enclosed area applications, all applicators, all applicators should wear eye

Performance test data

Cross Hatch Adhesion (ASTM 3359):	100% passed, no failure
Flame spread (ASTM E84-98):	25
Smoke Developed (ASTM E84-10):	45
Accelerated Aging (ASTM G53), no primer:	No discoloration at 200 hours
Brookfield Viscosity, #3 Spindle, 30 rpm:	3564 centipoise
Specific Heat (23°C):	1.1120 W.s/gm.K
Thermal Diffusivity (23°C):	0.00239 cm ² /sec
Thermal Conductivity (23°C):	0.00097 C/cm.K 0.0563 Btu/hr.ft.°F
Solar Reflectance (ASTM E903):	0.83 to 0.86%
Emittance (ASTM E408-71):	0.87 to 0.94
Service Temperature: Continuous:	-40°C (-40°F): 230°C (446°F)
Maximum surge:	230°C (446°F)

Ordering and shipping information

Packaging size:	20 liters pail
Shelf life:	12 months from date of shipment at minimum 5°C (40°F), maximum 26°C (80°F) cool storage is recommended. DO NOT FREEZE.
Density:	0,6 kg/L ± 0,2

Health and Safety

Materials are safe for handling. Consult Material Safety Data Sheet for descriptive handling and safety information.

Warranty

MCU-Coatings warrants its products to be free from defects in materials. MCU-Coatings's sole obligation and Buyer's exclusive remedy in connection with the products shall be limited at MCU-Coatings's option to either replacement of products not conforming with this warranty or to credit the Buyer's account the invoiced amount of the non-conforming products. Any claim under this warranty must be made by Buyer to MCU-Coatings in writing within five (5) days of Buyer's discovery of the claimed defect, but in no event later than the expiration of the applicable shelf- life, or six months from the delivery date, whichever is earlier. Buyer's failure to notify MCU-Coatings of such non-conformance as required herein shall bar Buyer from recovery under this warranty.

MCU-Coatings makes no other warranties concerning the products. No other warranties, whether expressed, implied, or statutory, such as warranties of merchantability or fitness for a particular purpose, shall apply. In no event shall MCU-Coatings be liable for consequential or incidental damages.

Any recommendations or suggestions relating to the use of the products made by MCU-Coatings, whether in its technical literature, or in response to specific inquiry, or otherwise, is based on data believed to be reliable; however, the products and information are intended for use by Buyers having requisite skill and know-how in the industry, and therefore it is for Buyer to satisfy itself of the suitability of the products for its own particular use and it shall be deemed that Buyer has done so at its sole discretion and risk. Variation in environment, changes in procedures of use or extrapolation of data may cause unsatisfactory results.

Limit of liability

MCU-Coatings' liability on any claim of any kind, including claims based upon MCU-Coatings' negligence or strict liability, for any loss or damage arising out of, connected with or resulting from the use of the products, shall in no case exceed the purchase price allowable for the products or part thereof that give rise to the claim. In no event shall MCU-Coatings be liable for consequential or incidental damages. Published Product Data Sheets are subject to change without notice. Contact your MCU-Coatings Representative for current Product Data Sheets.