



TYPE HTC HEAT TRANSFER CEMENT

HTC-20, & 30 CEMENT:

HTC-20 & 30 heat transfer cements are putty-like materials of high strength and high thermal conductivity. When cured, these materials become very hard, yet remain water soluble unless taken to a temperature above 450°F. Entirely inorganic, they will not decay and will not burn or support combustion. They begin to fuse and evaporate at 1 500°F. These cements when applied to metal surfaces will withstand considerable shock, and provide a corrosion resistant covering against most environments.

It is recommended that these cements be stored at a temperature between 40 and 90°F in order to maintain the optimum working properties. Being subject to freezing will not cause any damage. Shelf life should be at least 12 months if cement is moist and can be tightly sealed. Added properties are as shown in the table.

Prior to application all surfaces must be cleaned. Remove loose paint, rust, scale, mill varnish, grease, etc. Use a wire brush if necessary. When using putty knife or trowel to apply cement, keep tool wet by dipping in water or wiping with damp cloth. Apply a uniform coating free of voids or air bubbles. Protect exposed locations from weather.

A small amount of water will thin these cements. Tools may be cleaned with water. These cements when troweled in place on metals show excellent adhesion. On vertical and overhead surfaces the adhesion is excellent, but the application of a thick coat to large flat areas is facilitated by reinforcing with 1 in. chicken wire anchored about 1/4 in. from the surface. Lower temperatures improve the adhesiveness, but do not apply on surfaces at temperatures below 20°F because the cement freezes and dries very slowly. If cement has frozen, be sure it is thoroughly thawed and mixed when applied. Cements are good as long as they will adhere. Keep contents moist and cans sealed when not in use.

HTC-50, WATERPROOF CEMENT:

HTC-50 is a non-hardening, waterproof heat transfer cement requiring no cure. This cement is recommended where it is necessary to maintain good contact between two surfaces that are subject to expansion cycles. It is easily applied with a trowel or caulking gun at any temperature between 5 and 350°F. If the surfaces being mated are rusty or corroded, the cement will act as a protective coating. Because the strength is relatively low it is usually used between two surfaces that are held together such as platecoils on tanks.

In application, it is not necessary that the surfaces be clean of grease or rust free. No cure is required and it is not necessary to keep the container sealed as the cement will not dry and can be stored indefinitely. No mixing is necessary before or during application, and freezing causes no harm. Apply only as much as is needed to give good contact and to keep out air. The cement will extrude easily from between the plate coil and the tank leaving a thin film which assures maximum heat transfer.

PROPERTIES:

	HTC-20	HTC-30	HTC-50
Thermal conductivity (BTU-in./hr.-sq.ft.-°F)	90	80	45
Compressive Strength (lbs/sq.in.)	1100	1100	-
Maximum use temperature (°F)	750	1250	350
Minimum use temperature (°F)	-300	-300	-116
Weight/Gal., Uncured (lbs)	15.0	25.0	10.0
Weight/Gal., Cured (lbs)	12.4	24.2	10.0
Color	black	grey	black
Grain Size	fine	fine	fine
Water Soluble	yes	yes	no

These cements are slightly alkaline. Protect eyes and wash from hands.

The amount of cement required between flat surfaces and for pipe tracing is shown in the following tables.

MATED FLAT SURFACES

CEMENT THICKNESS (in.)	GAL. PER SQ.FT.
1/16	.043
1/8	.086
1/4	.172

PIPE TRACING

TRACE DIAMETER	FEET PER GAL.
.195	66.7
.246	52.6
.340	30.3
.402	19.6

TO CURE HTC-20 & 30

Allow to air dry 4 hours, then apply heat at any temperature up to 200°F; for 4 hours to 24 hours if 180 to 200°F is used, longer at lower temperatures. The tracer unit can be used to cure the cement by energizing at a reduced voltage so as not to overheat.

Do not heat above 212°F until completely cured, which is evident when the cement is very hard or will not give to pressure of finger or pencil. The curing process involves driving off moisture. If the cement boils it becomes porous and heat transfer capabilities are reduced.

TO ORDER:

Type HTC cements are put up in one and five gallon pails. To specify, indicate the cement type and the can size. HTC-20-5 is a five gallon pail of HTC-20 cement.

Other heat transfer materials are available:

HTF-300-3, A 300 ft. Roll of 3" wide, mastic backed, heat transfer foil. (Refer to bulletin L-110)

Section V—Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable	XXXX	

Incompatibility (*Materials to Avoid*)

Hazardous Decomposition or Byproducts N/A

Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	XXXX	

Section VI—Health Hazard Data

Route(s) of Entry	Inhalation? N/A	Skin? XXX	Ingestion? N/A
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Health Hazards (*Acute and Chronic*)

EYE CONTACT-IRRITATION

SKIN CONTACT-IRRITATION

Carcinogenicity N/A	NTP? N/A	IARC Monographs? N/A	OSHA Regulated? N/A
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Signs and Symptoms of Exposure

SKIN AND EYE IRRITATION

Medical Conditions
Generally Aggravated by Exposure N/A

Emergency and First Aid Procedures

IN CASE OF CONTACT WITH EYES, FLUSH THOROUGHLY WITH WATER FOR 10 -15 MINUTES

IN CASE OF CONTACT WITH SKIN WASH WITH SOAP AND WATER

Section VII—Precautions for Safe Handling and Use

Steps to Be Taken in Case Material Is Released or Spilled

REMOVE EXCESS MASTIC , WASH WITH WATER.

Waste Disposal Method

DISPOSE OF ACCORDING TO LOCAL, STATE, AND FEDERAL REGULATIONS.

Precautions to Be Taken in Handling and Storing

N/A STORE AT NORMAL AMBIENT CONDITIONS

Other Precautions

N/A

Section VII—Control Measures

Respiratory Protection (*Specify Type*)

Ventilation	Local Exhaust	Special
	Mechanical (<i>General</i>)	Other
		KEEP BELOW TLV'S

Protective Gloves RUBBER GLOVES	Eye Protection WEAR SAFETY GLASSES
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Other Protective Clothing or Equipment

EYE WASH AND SAFETY SHOWERS

Work/Hygienic Practices

AVOID CONTACT WITH SKIN, EYES, AND CLOTHING