



VTEMP TIC 177

DESCRIPTION

- ❖ Thermal interface coating
- ❖ Reduces risk of CUI
- ❖ Eliminates / reduces need for insulation / jacketing
- ❖ Personal protective system in accordance with ASTM – C 1055
- ❖ Service Temperature upto 177°C
- ❖ Can be applied on CS and SS (for stainless use VTEMP 600 as a required primer)
- ❖ Resistant to thermal cyclic shocks
- ❖ Can be applied directly to hot surfaces upto 177°C
- ❖ For hot as well as cold services

VTEMP TIC 177, the Thermal Interface Coating System is a specially formulated coating product that provides thermal barrier coating for insulation and personnel protection.

VTEMP TIC 177 reduces the heat flow from the hot substrate (up to 177°C) to the exposed surface.

VTEMP TIC 177 also prevents / reduces Condensation formation.

VTEMP TIC 177 is a water based, single component high build product applied in a single coat, wet on wet application to form a thick seamless composite thermal barrier coating and eliminate the need of conventional insulations and jacketing.

VTEMP TIC 177 is forms a coarse/rough white coating which begins to discolor at temperature > 110°C while in operation, however this does not affect the integrity of the coating

VTEMP TIC 177 coating system translates to tremendous cost and energy savings and prevents/reduces condensation formation

VTEMP TIC 177 coating system is visible to the naked eye, which makes visual inspection of the system possible at all times.

PRODUCT TECHNICAL DATA

Temperature Resistance	(-30)°C to (+) 177°C
% Solids by Volume	77%
Pot life	Single component
Film Thickness	1250 to 3750 μ
Minimum DFT	> 1250 μ in single coat
Maximum DFT	Upto 3750 μ
Application Temperature	10°C to 177°C
Theoretical coverage	30 m ² /ltr/25 μ DFT
Thermal Conductivity ASTM C177-10 @ 100°F	0.675 BTU/hr ft ² °F

USES

VTEMP TIC 177 is used on CS primed surface for both hot and cold assets like storage tanks, pipelines, heat exchangers, reactors, columns, regeneration units, LNG lines.

VTEMP TIC 177 should not be used in areas exposed to strong chemical spills or fumes or immersed service

SURFACE PREPARATION

As primer should be applied to ensure resistance against CUI, Refer to Product data sheet of VTEMP 600 and VTEMP 200



VTEMP TIC 177

MIXING & THINNING

Separation of solids and liquids is observed with solids on the top forming cake with free flowing liquid at bottom.

VTEMP TIC 177 is a Single component product. Mix the product in the container itself with paddle mixer at speed of approximately 400 RPM until the material becomes free flowing and smooth without any lumps. DO not mix at high speed as the product is shear sensitive. Potable water (1-2 ltrs) / container can be used for thinning.

Thinning **VTEMP TIC 177** will reduce viscosity and will affect film build properties of this product. Do not over thin this material

Mix as needed and appropriately only as one container has a working time of 30-40 minutes. In case small quantities are required, seal the container after removing desired quantities.

APPLICATION SYSTEM

VTEMP TIC 177 is applied over primed surface. Primers like **VTEMP 200** or **VTEMP 600** should be used. Refer to PDS of primers for surface preparation details as well as desired DFT

TOP COAT SEALER (optional):

For specific color selection, ease of cleaning and better appearance, apply our **VTEMP SEAL 177** @ DFT 50-75 μm

VTEMP SEAL 177 has excellent weathering properties and provides **UV protection**.

APPLICATION TO HOT SURFACES:

VTEMP TIC 177 can be directly applied to hot steel upto a temperature of 177°C. Each coat should not exceed a DFT of 600 -700 μ . Achieve DFT in various coats to avoid pinholes or blistering.

REPAIRS

China brestle Brush can be used for repairs or touchups on small areas.

CURING DATA & RECOAT WINDOW

Over coating intervals range from 1 hour to 24 hours. This depends on humidity levels temperature, exposure to sunlight or shaded areas.

Full cure can be achieved in 24 hours. In case of high humidity levels, curing time increases. Allow 24 hours between recoat intervals

Avoid excess dew or exposure to rains till full curing is achieved

APPLICATION EQUIPMENT

VTEMP TIC 177 can be applied using airless or conventional spray equipment designed to apply textured coatings through an internal mix nozzle. For conventional air spray, use a Binks 2001 spray gun equipped with a #59CSS Fluid Nozzle, # 262 Air Nozzle, #559 Fluid Needle and a #54-2065 Ring. Alternatively, Graco RTX and GTX texture spray equipment with a 6 mm or 8 mm fine finish nozzle can also be used. A diaphragm type fluid pump or pressurized tank is well suited to supply material to the spray gun. When using this method, remove all spray gun filters.



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For airless spray application, use a Graco Silver airless spray gun equipped with a Graco Air Atomizer Kit (Model 244052). To achieve the best results, the fluid pressure should be low relative to a high atomizing air pressure. Assure all atomizing air is clean, oil-free and dry. Use only spray guns equipped with internal mix texture nozzles. Equip airless pumps with 30 mesh fluid filters.

APPLICATION PROCEDURE

Ensure that the temperature of the substrate is at least 3 °C above the dew point to avoid condensation. Ambient temperature should be > 10°C. Humidity levels as high as 85% can be tolerated.

For airless spray, Set the atomizing pressure between 60 to 80 PSI and adjust fluid flow to achieve a dry and thick/rough spray with high air atomization.

Set the fluid pressure between 10-15 PSI while using a conventional pot. Maintain low fluid flow with high air atomization to achieve a coarse appearance.

The gun should be held perpendicular to the surface being coated. Distance between the nozzle and the substrate should be between 15 to 20 inches. Maintain short whip hose.

The coating will look rough and should at no point be paint like smooth.

Use multiple coats to achieve desired DFT.

CLEANING AND FLUSHING

Clean up immediately after use with potable water

STORAGE

The product must be stored dry, cool, well ventilated space and away from source of heat and ignition. Containers must be kept tightly closed. General storage temperature range is 5 to 35°C. Ideal Storage temperatures would be 15°C to 30°C. Do not expose to direct sunlight when not in use. Warm upto room temperatures for application in case of low temperatures

PACKING SIZE

20 litre containers

SHELF LIFE

12 MONTHS. In case shelf life exceeds, the product has to be retested before being used

HEALTH AND SAFETY

- Read the Material Safety Data Sheet (MSDS) and container labels for detailed health and safety information.
- Do not apply material in enclosed areas without adequate air exchange and ventilation.
- All application personnel must use fresh air respirators or fresh air hoods in enclosed areas.
- Wear protective clothing, gloves and eye protection.
- In case of accidental contact with Product, Immediately wash with soap and water.
- This product is intended for industrial use by properly trained professional applicators only.



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TEST DATA:

ASTM-C1055: “Standard Guide for Heated System Surface Condition that Produce Contact Burn Injuries.” The established acceptable limit for contact exposure in an industrial environmental is 5 seconds.

RESULT OF TESTING OF VTEMP TIC 177			
Metal Temperature	Minimum Film Thickness of VTEMP TIC 177	Number of Coats	Rating
38°C-104 °C	1250 µm	2	Passes
104°C-138 °C	1875 µm	3	Passes
138°C-160 °C	2500 µm	4	Passes
160°C-177 °C	3125 to 375 µm	5-6	Passes

ENVIRONMENTAL CONDITIONS FOR APPLICATION:

VTEMP TIC 177 Application Systems					
	System#1	System#2	System#3	System#4	System#5
Temperature °C	38 to 104	104 to 138	138 to 160	160 to 177 Intermittent	160 to 177 Continuous
Primer (One Coat)	VTEMP 200	VTEMP 200	VTEMP 600	VTEMP 600	VTEMP 600
DFT of primer microns	Upto 200	Upto 200	125 to 150	125 to 150	125 to 150
Dry time before applying TIC 177	24 hours	24 hours	24 hours	24 hours	24 hours
Number of coats TIC 177	2	3	4	5	6
DFT of TIC 177 each coat (µm)	600 to 650	600 to 650	600 to 650	600 to 650	600 to 650
Total DFT (µm)	1250	1875	2500	3125	3750
Ambient apply recoat time between coat(s)	Eight hours	Eight hours	Eight hours	Eight hours	Eight hours
Hot apply recoat time after first coat	One hour	One hour	One hour	One hour	One hour
Hot apply recoat time of each coat after first coat	Four hours	Four hours	Four hours	Four hours	Four hours
Optional seal coat	An optional Seal Coat of VTEMP SEAL 177 may be applied at DFT 50 to 75 µm				

DISCLAIMER:

The information in this data sheet is based upon laboratory tests we believe to be accurate and is intended for guidance only. All recommendations or suggestions relating to the use of the **VASCOAT/VTEMP** products of **VASU CHEMICALS**, whether in technical documentation, or in response to a specific enquiry, or otherwise, are based on data which to the best of our knowledge are reliable.