



Anti-condensation solutions

Resichem 560 Thermal Barrier XF

is a high build solvent-free low emissivity coating designed to reduce or eradicate the build up of condensation on metallic surfaces. The product is capable of being applied at wet film thicknesses up to 3mm in a single coat and can be applied to damp manually prepared surfaces

Solvent free epoxy

High build capability in a single coat

Apply to damp surfaces

Cures at low temperatures Hand or spray apply

The benefits this product offers to engineers and maintenance teams includes-

Reduces or eradicates condensation build up on metallic surfaces

Creates a seamless corrosion protection layer around pipes and equipment

Cured coating is easy to inspect for engineers and maintenance teams

Reduces shutdowns & extends the working life of assets & equipment

Stops corrosion under insulation

Key Markets for this material—

Oil & Gas

Power

Chemical

Petrochemical

Marine

Paper & Pulp

Water



Why condensation forms....

Condensation is caused when cold surfaces are in contact with warm air. The cold temperature of the surface causes the moisture in the surrounding air to condense and create water droplets that sit on the cold surface, this is more commonly known as the dew point.

560 Thermal Barrier XF is designed to reduce this temperature differential and ensure the moisture laden air surrounding the cold surface does not condense and create water droplets.

The 3 key factors to take into consideration are-

- Surface temperature
- Atmospheric temperature
- Humidity

Testing of 560 Thermal Barrier XF....

3 metal containers were filled with iced water. The temperature of the container surface was measured at 3-4°C. The atmospheric temperature was taken and measured at 28°C with 65% humidity. The dew point was calculated to be 20.4° C. Each container was coated with 560 Thermal Barrier XF at varying dry film thicknesses.



Container A was coated with 3mm of 560 Thermal Barrier XF.
The surface temperature of the container increased to 9.1°C



Container B was coated with 5mm of 560 Thermal Barrier XF.
The surface temperature of the container increased to 15.9°C



Container C was coated with 7mm of 560 Thermal Barrier XF.
The surface temperature of the container increased to 21.0°C

The conclusion to this testing was 7mm of 560 Thermal Barrier XF would stop the build up of condensation on a metallic surface at 4-5°C, at an ambient temperature of 28°C with humidity at 65% and a dew point of 20.4°C

Dew point determination table.....

Air Temp °C	50%	55%	60%	65%	70%	75%	80%	85%	90%	95%
12.5	2.4	3.7	5.2	6.1	7.2	8.2	9.2	10.1	10.9	11.7
15.0	4.7	6.1	7.3	8.5	9.6	10.6	11.6	12.5	13.4	14.2
17.5	7.0	8.4	9.7	10.9	12.0	13.0	14.0	15.0	15.8	16.7
20.0	9.3	10.7	12.0	13.2	14.4	15.4	16.4	17.4	18.3	19.2
22.5	11.6	13.0	14.4	15.6	16.8	17.8	18.9	19.9	20.8	21.7
25.0	13.9	15.4	16.7	18.0	19.1	20.3	21.3	22.3	23.2	24.1
27.5	16.2	17.7	19.1	20.4	21.6	22.7	23.8	24.8	25.7	26.6
30.0	18.5	20.0	21.4	22.8	24.0	25.1	26.2	27.2	28.2	29.1
32.5	20.8	22.4	23.8	25.1	26.4	27.5	28.6	29.7	30.7	31.6
35.0	23.1	24.7	26.1	27.5	28.8	29.9	31.1	32.1	33.1	34.1
37.5	25.4	27.0	28.5	29.9	31.1	32.4	33.5	34.6	35.6	36.6
40.0	27.7	29.3	30.8	32.2	33.5	34.8	35.9	37.0	38.1	39.1
42.5	30.0	31.6	33.2	34.6	35.9	37.2	38.3	39.5	40.5	41.5
45.0	32.3	33.9	35.5	36.9	38.3	39.6	40.8	41.9	43.0	44.0

Coating thickness for 560 Thermal Barrier XF

Air Temp °C	50%	55%	60%	65%	70%	75%	80%	85%	90%	95%
12.5				1MM	1MM	2MM	2MM	3MM	3MM	3MM
15.0		1MM	1MM	2MM	3MM	3MM	3MM	3MM	4MM	4MM
17.5	1MM	2MM	2MM	3MM	3MM	4MM	4MM	5MM	5MM	5MM
20.0	2MM	3MM	3MM	4MM	4MM	5MM	5MM	5MM	6MM	6MM
22.5	3MM	4MM	4MM	5MM	5MM	6MM	6MM	7MM	7MM	7MM
25.0	4MM	5MM	5MM	6MM	6MM	7MM	7MM	8MM	8MM	8MM
27.5	5MM	6MM	6MM	7MM	7MM	8MM	8MM	9MM	9MM	9MM
30.0	6MM	6MM	7MM	7MM	8MM	9MM	9MM	10MM	10MM	10MM
32.5	7MM	7MM	8MM	9MM	9MM	9MM	10MM	10MM	11MM	11MM
35.0	8MM	8MM	9MM	9MM	10MM	10MM	11MM	11MM	12MM	12MM
37.5	9MM	9MM	10MM	10MM	11MM	11MM	12MM	12MM	13MM	13MM
40.0	10MM	10MM	11MM	11MM	12MM	12MM	13MM	13MM	14MM	14MM
42.5	10MM	11MM	12MM	12MM	13MM	13MM	14MM	14MM	15MM	15MM
45.0	11MM	12MM	13MM	13MM	14MM	14MM	15MM	15MM	16MM	16MM

The calculations above are based on a surface temperature of 4-5°C

Global Projects



External tank surface prone to condensation and mould growth was abraded and coated with 4mm of 560 Thermal Barrier XF



Cold water line at a chemical plant operating at 2-4°C. The ambient temperature was measured at 32°C on average with humidity at 65-85%. 560 Thermal Barrier XF was applied at 8mm around the pipework to eradicate condensation build up

Cold water lines at operating at 5°C. The ambient temperature was measured at 32°C on average with humidity at 85%. 560 Thermal Barrier XF was applied at 8mm around the pipework to eradicate condensation build up



Cold water storage tank roof was suffering from surface corrosion due to the condensation build up on the surface of the steel. The surface temperature was measured at 5°C. The ambient temperature was 32°C with 85% humidity. 560 Thermal Barrier XF was applied at 8-10mm on the surface of the tank to reduce the condensation build up and to protect from any further surface corrosion



Cold water lines operating in a high humidity environment coated with 560 Thermal Barrier XF



Mixing bowls in a food manufacturing site were corroding due to the condensation build on the surface. The bowls were operating at a constant temperature of 6°C, 4mm of 560 Thermal Barrier XF was applied to the surface of the bowl. Once back in operation the condensation build up was eradicated by the 4mm film of Thermal Barrier XF.



Product Description & Characteristics



Resin system	Epoxy
Solids content	100%
Sag resistance	3mm
Usable Life (20°)	30mins
Touch Dry (20°)	3-4hrs
Hard dry (20°)	8hrs
Dry heat resistance (°C)	140
Intermittent wet heat resistance (°C)	140
Mixing ratio by volume	5.5:1
Mixing ratio by weight	2.25:1

Product Curing Times

	5°C			10°C			20°C			30°C			40°C		
	Pot life	Touch dry	Hard dry	Pot life	Touch dry	Hard dry	Pot life	Touch dry	Hard dry	Pot life	Touch dry	Hard dry	Pot life	Touch dry	Hard dry
560	120mins	16hrs	32hrs	60mins	8hrs	16hrs	30mins	4hrs	8hrs	15mins	2hrs	4hrs	7.5mins	60mins	2hrs

Resimac Technical Support and Expertise



Formed in 2009 and based in the North of England, Resimac manufactures a wide range of solvent free epoxy and polyurethane coatings and engineering materials for the Marine, Chemical, Water, Power, Oil and Gas Industries.

We are able to offer expert technical advice onsite or online 24 hours a day, 7 days a week in over 45 countries worldwide.



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Anti Slip Floor Coatings

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Condensation Prevention

Containment Areas

CUI Prevention

Drinking Water Tank Linings

Engine Blocks

External Surfaces

Filters

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Heat Exchanger Repair

Heat Protection

HVAC Repair & Linings

Pipe Repair & Pipe Wrapping

Plate bonding

Pump & Process System Repairs

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Tank Base Sealing

Transformer Repairs

Resimac Limited

Unit B, Park Barn Estate

Station Road, Topcliffe, Thirsk

Y07 3SE, North Yorkshire

UNITED KINGDOM

Tel: +44 (0) 1845 577498

Email: info@resimac.co.uk

Web: www.resimacsolutions.com
