BERGER PROTECTON
PROTECTIVE COATINGS DIVISION

BR Thermoindicative Paint

Single Pack System Silicone Resin Based

Issue Date : Feb 2025

Product Description

A single pack modified silicon resin based paint that indicate temperature change of the coated substrate in a particular range. The colour changes from green to blue at temperature range from 200-250oC and blue turns into Greyish white at 400-450°C range. This paint shows irrevsible one time coloure change in response to temp rise. The colour change is permanent. After warning of temp change the coating must be reapplied with proper surface preparation.

Usage Areas

A novel functional coating for visual identification of uncontrolled temperature rise and internal insulation failure. The thermo indicative paint shall exhibit a colour change in response to temperature increase to help take preventive measure . Ideally used over reaction vessel on chemical and petrochemical plants as a one time warning of temperature spike. The Thermo indicative paint can be applied over blasted mild steel or over an inorganic zinc primer to get an optimum corrosion resistance.

Product Data

Composition	modified Silicon based Polymer Coating with suitable pigments
Volume Solids	38 ± 2%
VOC	515-550 gms/ltr
Application Method	Brush / Spray / Roller
Recommended DFT	25-35 µ per coat
Recommended WFT	66-92 µ /coat
Theoretical Spreading Rate	10.9-15.2 m^2/ltr
Colour	Green
Finish	Matt

Practical Coverage : Dependent on-site condition and transfer losses due to substrate design, profile, wind, heights, application method, painter's skill etc.

Pot Life

10°C	15°C	25°C	40°C
NA	NA	NA	NA

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Typical Coating Systems

Systems compatibility can be provided on request to the Technical Service Team

Coats	Generic Systems	Compatible Products
Primer	Inorganic Zinc, Thermoindicative	Zinc Anode 304 Coating, BR Thermoindicative Paint
Mid Coat	-	-
Top Coat	Thermoindicative	BR Thermoindicative Paint

Pack size

	UOM	Part A	Part B	Total
Volume	Lt/Kg	20 ltr	-	20 ltr

Storage

The paints must be in its sealed original containers and be kept under cover in a dry place with ambient conditions inside closed room until use. The curing agent is sensitive to moisture and hence relative humidity within the room should be maintained preferably at ≤55%. Stacking should not be more than 3 drums/ cartons one above other. DO NOT expose to direct rain/ sunlight. Any deviation to the defined storage condition shall have a negative effect on the shelf life.

Shelf life

Up to 9 months as long as the sealed original containers are kept under cover in a dry place under normal temperature conditions until use.

Note :

1. Storage life @23°C will be extended up to 24 months. Storage at elevated temperatures may reduce shelf life; and hence never exceed maximum room temperature of 40°C. Storage life, thereafter, subject to re-inspection; consult tech-service.
2. It may be noted that higher volume solid material will tend to soft settling on long term storage, and it can made to a normal homogeneous consistency by use of a slow speed 200-400 rpm power stirrer particularly in the PART A (BASE) container; and this soft settling is not considered as a failure of keeping properties.

Flash Point

Part A	Part B	Mixed Paint
25°C	25°C	25°C

Health & Safety

Please refer to the separate Safety Data Sheet available with detailed information.

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APPLICATION GUIDELINE

Substrate	Mild Steel.	
Surface preparation	**Mild Steel :** Remove grease, oil and any other contaminants preferably by using a degreasing solvent as per SSPC SP1. Abrasive blast clean to a minimum SSPC SP 10 with a surface profile not exceeding 25 microns. The surface should be clean and dry before application of the paint.	
Atmospheric Condition	Ventilation	Suitable air engineering systems, which will ensure reduction of air contaminants and thatto further help regulate the temperature and humidity of the working environment.
	Dew Point	Ensure surface temperature to be more than 3°C over the dew point temperature.
	Humidity	Do not apply when relative humidity rises above 85%.
Mixing	Stir the base thoroughly and then mix base to a homogenous liquid and then add recommended part of catalyst to uniform consistency. Allow the mixture to mature for 15 minutes and stir again before and during application. NOTE : Stir the base thoroughly and then mix base to a homogenous liquid and then add recommended part of catalyst to uniform consistency. Allow the mixture to mature for 15 minutes and stir again before and during application.	
Thinner	Thinner 853	

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Application

Brush/Roller : Apply only to small areas without thinner to get required DFT.

Conventional Spray : Apply with not more than 5-10% Thinner.

Use any standard equipment at an atomising pressure of 4.2 - 4.9 Kg/cm^2.
using a handgun with 66 fluid tip, 70 thou orifice.
Touch up and stripe coats can be applied by brush application.

Do not apply on hot/cold surfaces. Always apply within the window of 10-50°C.

Work Stoppage

Ensure to use the mixed paint within pot life as there are no methods to increase working pot life. Keep the working tools and tips free of drying and clogging. Always use fresh material and never add-up to previous mixed paints.

Clean Up

Clean all equipment immediately after use with thinner 853. It is good working practices to flush or clean all the spray equipment periodically. All the surplus materials and empty containers should be disposed of in accordance with appropriate regional regulations.

Drying Time

Temperature	Touch dry	Handle dry	Hard dry
10°C	50 mins	3 hrs	4 hrs
23°C	40 mins	2 hrs	3 hrs
30°C	30 mins	1 hr	2 hrs
40°C	20 mins	45 mins	1 hr

Over Coating Intervals

	@23°C	@30°C
MIN	3 hrs	2 hrs
MAX	Extended	Extended

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Curing Time	7 days NOTE : Drying and Curing times are determined under controlled temperatures and at relative humidity below 85%, for the NDFT of the product.
Inspection	Refer SSPC PA2 guidelines for measurement of DFT. Do not conduct any destructive test like peel off/ pull off & high voltage Holiday test unless and otherwise mandatory in the specification. Consult Technical Service team for preparation of QAP (Quality Assurance plan).
Repair Methodology	Clean off loose paints, debris, contaminants and ensure spot repair with available tools as practiced in hand/ power tool cleaning using wire brush/buffing, emery/feathering to smoothen the edges of impaired areas. Use appropriate touch up primer followed by recommended coating system, allowing due over coating interval time to area of 2-3 inches in excess of the spot repaired portion.
Product Characteristics	• BR Thermoindicative Paint exhibits good resistance to Salvents, Salt and Water when exposed to splashes, spills, and mild fumes. • It has excellent weatherability and moderate flexibility and abrasion resistance. • Its color change at varying temperatures helps pinpoint the faulty area. • The product exhibits temperature resistance up to 450°C under prolonged exposure to dry heat.
Disclaimer	The information contained within this Data Sheet is based on information believed to be reliable at the time of its preparation. The Company will not be liable for loss or damage howsoever caused including liability for negligence, which may be suffered by the user of the data contained herein. It is the users' responsibility to conduct all necessary tests to confirm the suitability of any product or system for their intended use. No guarantee of results is implied since conditions of use are beyond our control.