

Material Product Data Sheet

Metcoseal HT-20 Sealer for Thermal Spray Coatings

Sealer Products: Metcoseal™ HT-20

1 Introduction

Metcoseal HT-20 is a one component impregnating sealer for high temperature applications. Metcoseal HT-20 is optimized for preventing undercorrosion in oxide ceramic, metallic and carbide coatings in high service temperature.

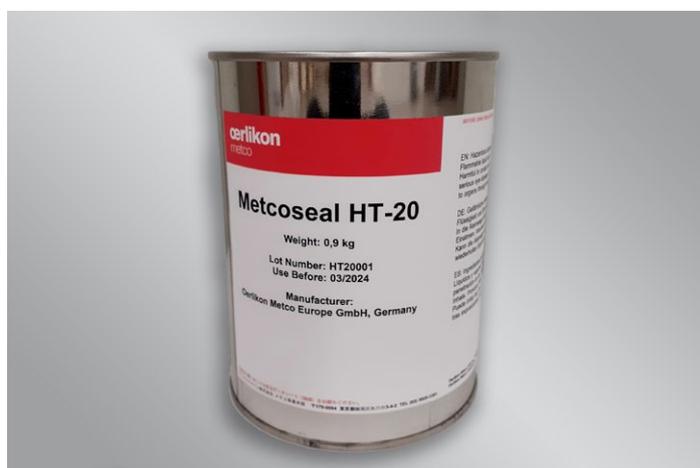
1.1 Typical Uses and Applications

Prevention of undercorrosion in high temperatures up to 650°C. Prevention of dross buildup in galvanizing pot rolls. Improving dielectric resistance in high temperature oxide ceramic coatings

- Zinc pot rolls and equipment
- Dielectric protection of high temperature parts
- Boiler walls and tubes

Quick Facts

Classification	Auxiliary, Sealers
Purpose	Seal porosity in thermal spray coatings used in high temperature processes
Process	APS, HVOF and EAW coatings



1.2 Physical Properties

Property	Metcoseal HT-20	
Base Composition	Special Hybrid Resin (1-component)	
Appearance	Clear colorless liquid Clear & transparent when cured	
Coverage	110 ml / m ²	3.7 oz / ft ²
Cure Method	Polymerization	
Viscosity at Room Temperature	12 to 14 s (DIN #4)	
FlashPoint	25 °C TCC	77 °F TCC
Max. Service Temperature	650 °C	1200 °F
Shelf Life	12 months See section 4.2	
Volatile Organic Compounds (VOC)	50 to 75 wt. %	

2 Material Information

2.1 Quick Selector

Sealer	Application Examples	Service Conditions		Curing
		pH	Solvents	
Metcoseal HT-20	Zinc pot rolls Boiler Walls and Tubes High temperature dielectric protection	2 to 12	Most industrial solvents	35 min @ 250 °C

3 Key Processing Information

3.1 Metcoseal HT-20 Sealing Work Preparations

Always read the Material Safety Data sheet (SDS) and adhere to all safety measures and use correct Personal Protective Equipment (PPE) before starting to work with Metcoseal HT-20.

As a general rule, apply sealer always after spraying and prior to finishing. Metcoseal HT-20 achieves maximum performance when coating surface is clean, dry and free of oil, grease, dirt, corrosion, paint and any other foreign matter.

Prepare all tools and materials ready for the sealing work. Use suitable plastic (PP, PE), glass or metal containers and mixers.

Metcoseal HT-20 is recommended to be applied manually by brush or paint roller, but can also be sprayed with industrial paint spray equipment.

3.2 Surface Preparation

After completing the thermal spray coating do not touch the coated surfaces. If the coating is contaminated it must be cleaned before applying the sealer. Remove dust by air blasting. Organic solvents such as acetone or isopropanol can be used for grease and dirt removal. Let dry completely before applying the sealer.

3.3 Metcoseal HT-20 Preparation for Application

Stir the sealer to ensure homogenization before use.

Keep the sealer at room temperature. Do not heat the sealer.

3.4 Metcoseal HT-20 Manual Application

When starting the sealing work the workpiece temperature must be above the dew point. The workpiece temperature should not exceed 50 °C (120 °F)

Apply the first layer sealer using a paintbrush or small paint roller with generous amount of sealer (thick wet film), as wet as possible to ensure the proper penetration. If possible, apply some pressure to the surface. Continue brushing the surface for a couple of times until air bubbles do not appear

anymore. In case dry spots appear, reapply sealer after 5 minutes. After 15 minutes wipe the excess sealer from the surface by a non-linting cloth, squeegee or dry paint roller. Leave some sealer on the surface, do not dry completely.

3.5 Curing of Metcoseal HT-20

Metcoseal HT-20 can be air dried in room temperature or up to 50 °C. Part can be handled in air dried condition and also grinding is possible.

Curing is based on chemical reaction and requires heating and certain time dependent on the mass of the component. Final cure and high temperature properties are achieved when curing at minimum 250 °C. This can be done in the process where the component is used.

Curing Schedules	Time After Application (at room temperature unless otherwise noted)	
Touch / gel time	50 min at 50 °C	120 °F
Complete Cure	35 min at 250 °C	480 °F

Ensure the component is at the curing temperature for the duration of the curing cycle.

Possible grinding of the coating can be performed after air drying.

Sometimes it is possible that grinding opens porosity or creates cracks that are not any longer properly sealed. In these cases or if in doubt a second sealing can be performed. Follow the instructions given for surface cleaning and after application, make sure all excess is removed very thoroughly.

After the work is complete remove all spillage or excess sealer with xylene, acetone or methylethylketone (MEK). Dispose the used tools or rinse with acetone or MEK.

4 Commercial Information

4.1 Ordering Information and Availability

	Order No.	Container Size	Availability	Distribution
Metcoseal HT-20	2370955	1 Liter Can	Special Order	Global

4.2 Storage and Disposal Recommendations

- Metcoseal HT-20 has to be stored in dry, well-ventilated place in room temperature. Containers should be held tightly closed. See SDS for details.
- Sealer that is once opened, but properly stored in well-closed container can be used until the expiry date.
- Hardened excess can be disposed with normal municipal waste. Liquid sealer or components must be treated as hazardous waste. See SDS for details.

4.3 Safety Recommendations

See the SDS (Safety Data Sheet) for the applicable product. SDS are available from the Oerlikon web site at www.oerlikon.com/metco (Resources – Safety Data Sheets).

Product	SDS No.
Metcoseal HT-20 Base	50-2953