

Material Product Data Sheet

Metcoseal HT-30 Sealer for Thermal Spray Coatings

Sealer Products: Metcoseal™ HT-30

1 Introduction

Metcoseal HT-30 is an **easy-to-use one** component impregnating sealer for wet corrosion and also high temperature applications. Metcoseal HT-30 is optimized for preventing undercorrosion in oxide ceramic, metallic and carbide coatings, and it also improves the mechanical strength of the coating.

1.1 Typical Uses and Applications

Prevention of undercorrosion in wet environments and in high temperatures up to 700°C. Improving dielectric resistance in high temperature oxide ceramic coatings

- Carbide, Metallic and Oxide Coatings
- Dielectric protection of high temperature parts

Quick Facts

| | |
|----------------|---|
| Classification | Auxiliary, Sealers |
| Purpose | Seal porosity in thermal spray coatings used in wet environment or high temperature |
| Process | APS, HVOF and EAW coatings |



1.2 Physical Properties

| Property | Metcoseal HT-30 | |
|----------------------------------|--|--------------------------|
| Base Composition | Special Hybrid Resin (1-component) | |
| Appearance | Clear colorless liquid Clear & transparent when cured | |
| Coverage | 100 ml / m ² | 3.4 oz / ft ² |
| Cure Method | Polymerization | |
| Viscosity at Room Temperature | 11 to 14 s (DIN #4) | |
| FlashPoint | 24 °C TCC | 75 °F TCC |
| Max. Service Temperature | 700 °C | 1290 °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-30 | General industry wet corrosion High temperature corrosion applications | 2 to 12 | Most industrial solvents | 12 h @ 20 °C 5 min @ 250 °C |

3 Key Processing Information

3.1 Metcoseal HT-30 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-30.

As a general rule, apply sealer always after spraying and prior to finishing. Metcoseal HT-30 achieves maximum performance when coating surface is clean, dry and free of oil, grease, dirt, corrosives, 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-30 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-30 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-30 Manual Application

When starting the sealing work the workpiece temperature must be above the dew point. The workpiece temperature should not exceed 40 °C (104 °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-30

Curing is based on chemical reaction with humidity and requires certain time dependent on the component / surrounding temperature. For wet corrosion applications curing in room temperature (RT) is sufficient. For high temperature applications post-curing can be done in operation.

| Curing Schedules | Time After Application (at room temperature unless otherwise noted) | |
|------------------|---|--------|
| Touch / gel time | 30 min at 20 °C | 70 °F |
| | 5 min at 150 °C | 300 °F |
| | 1 min at 250 °C | 480 °F |
| Complete Cure | 14 h at 20 °C | 70 °F |
| | 1 h at 150 °C | 300 °F |
| | 10 min at 250 °C | 480 °F |

Full mechanical strength achieved in RT after 7 days.

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

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 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-30 | 2373425 | 1 Liter Bottle | Special Order | Global |

4.2 Storage and Disposal Recommendations

- Metcoseal HT-30 has to be stored in dry, well-ventilated place in room temperature. Containers should be held tightly closed. HT-30 is sensitive to humidity! See SDS for details.
- Sealer that is once opened, but properly stored in well-closed container can be used until the expiry date.
- This sealer can generate pressure when stored after opening for prolonged time. Opening of the bottle must be done with caution and using proper PPE!
- 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-30 | 50-2956 |