

Material Product Data Sheet

Metcoseal LP-40 Sealer for Thermal Spray Coatings

Sealer Products: Metcoseal™ LP-40

1 Introduction

MetcoSeal LP-40 is a low-viscosity impregnating solvent based 2-component sealer for sealing internal porosity in thermal spray coatings. MetcoSeal LP-40 is optimized for maximum impregnation depth in low-porosity carbide and oxide coatings. Open porosity is effectively sealed throughout the coating to enhance corrosion resistance and gas tightness.

1.1 Typical Uses and Applications

Prevention of undercorrosion and improving gas tightness in humid or wet conditions

- Mud Motor Rotors
- Anilox Rolls
- Paper Industry Rolls and Components
- Hydraulic Rods

1.2 Physical Properties

Quick Facts	
Classification	Auxiliary, Sealers
Purpose	Seal porosity within low-porosity thermal spray coatings
Process	HVOF and APS carbide and oxide coatings



Property	Metcoseal LP-40	
Base Composition	Special Epoxide Resin (2-component)	
Appearance	Clear light color liquid Clear & transparent when cured	
Coverage	120 g / m ²	0.4 oz / ft ²
Cure Method	Polymerization	
Viscosity	14 to 18 s (DIN #4)	
FlashPoint	31 °C TCC	88 °F TCC
Max. Prolonged Service Temperature	200 °C	390 °F
Shelf Life	12 months See section 4.2	
Volatile Organic Compounds (VOC)	75 wt. %	

2 Material Information

2.1 Quick Selector

Sealer	Application Examples	Service Conditions		Curing	Mixing Ratio
		pH	Solvents		
Metcoseal LP-40	Mud motor rotors Anilox rolls Rolls for paper industry Hydraulic rods	2 to 12	Most industrial solvents	1 h @ 110 °C	Base : Curing agent 1:1 By weight

3 Key Processing Information

3.1 Metcoseal LP-40 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 LP-40.

As a general rule, apply sealer always after spraying and prior to finishing. Metcoseal LP-40 achieves maximum performance when coating surface is clean, dry and free of oil, grease, dirt, cor rosives, 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. Brushes and rollers should be suitable for epoxy paints.

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 LP-40 Mixing

Metcoseal LP-40 is recommended to be applied manually by brush or paint roller. If automated, 2-component spray equipment is recommended.

As some settling may occur, contents of the containers should be stirred or mixed thoroughly prior to use. Mix part BASE with part CURING AGENT always by weight on an accurate scale

Mixing Ratio: 1:1 by weight

NOTE: The amounts of the components should be followed accurately. Maximum allowed deviation is $\pm 0.5\%$ by weight
Example for a sealer batch of 200 grams:

Add BASE (100 ± 0.5 g) into the mixing pot on a scale
Add CURING AGENT (100 ± 0.5 g) into the same mixing pot

Mix the components properly at room temperature, at least for 1 min before using.

Ready mixture should not be heated. Mixed product pot life is maximum 30 minutes depending on the temperature.

3.4 Metcoseal LP-40 Manual Application

When starting the sealing work the workpiece temperature must be above the dew point and at least 20 °C (70 °F). The workpiece temperature must not exceed 50 °C (120 °F). Too high temperature causes premature evaporation and prevents sealer penetration.

Apply the first layer 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. This helps to prevent clogging of grinding wheels/belts in the finishing step.

IMPORTANT! Applying of the mixture should be done within 30 minutes after the addition of the curing agent.

3.5 Curing of Metcoseal LP-40

Curing is based on chemical reaction and requires heating and certain time dependent on the mass of the component. Recommended temperature for curing is 110 °C (230 °F). Higher temperature can be used to significantly speed up curing with smaller workpieces. Do not exceed 150 °C (300 °F).

Curing Schedules	Time After Application (at room temperature unless otherwise noted)	
Touch / gel time	10 min at 110 °C	230 °F
Complete Cure	1 hour at 110 °C	230 °F

Ensure the component is at the curing temperature for the duration of the curing cycle. Let the component cool down slowly.

4 Commercial Information

4.1 Ordering Information and Availability

	Order No.	Container Size	Availability	Distribution
Metcoseal LP-40	2370953	0.45 kg + 0.45 kg (Base + Curing Agent)	Special Order	Global

4.2 Storage and Disposal Recommendations

- Both components of Metcoseal LP-40 have to be stored separately in dry, well-ventilated place in room temperature. The curing agent is sensitive to humidity! Containers should be immediately closed after use and held tightly closed and prevent possibility of accidental mixing. See SDS for details
- Sealer components that are once opened, but properly stored in well-closed containers can be used until the expiry date. Slight color change in the Curing Agent is normal during longer storage and is not detrimental to performance
- Hardened excess can be disposed with normal municipal waste. Liquid sealer or components must be treated as

Possible grinding of the coating should not be performed before complete curing of the sealer. Grinding un cured sealer may clog grinding wheels.

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.

Let the excess sealer cure in the mixing container at elevated temperature until hardened.

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 LP-40 Base	50-2759
Metcoseal LP-40 Curing Agent	50-2760