FEDERAL INDUSTRIAL LININGS

Tel: +27 11 955 2555

16 Witchweed Avenue
Roodekrans, Roodepoort
JHB, South Africa

Reg. No: 2009/183722/23
VAT No: 4100254848

www.federalindustrial.co.za

**REF:** **FLCN98**
**ISSUE DATE:** **19/08/2022**
**REV:** **01**

# TECHNICAL DATA SHEET

## FedLine CN98 Chemical Resistant Leak-Free Lining System

## DESCRIPTION

The **FedLine CN98** lining system is based on the FedChem 98 product characteristics, and is a heavy-duty lining system that is designed primarily for the protection of steel and concrete in areas that are subjected to severe chemical attack. It is formulated using a high-performance chemical resistant novolac epoxy resin, reinforced with a fibreglass membrane together with a filled base coat.

This lining is designed to provide the substrate with maximum chemical resistance specifically against very aggressive acids like 98% Sulphuric acid etc.

It is particularly suitable for the protection of chemical storage tanks, chemical process vessels, steel sumps, bund areas, battery rooms and floors exposed to high levels of chemical spillage/fumes.

The use of fibreglass reinforcement helps to modify the expansion and contraction characteristics of the lining to operate at elevated temperatures and under fluctuating temperature conditions. It also reinforces the lining so that it can withstand mild physical abuse and impact damage, as well as minor substrate integrity failures such as hairline cracks in concrete.

## COMPOSITION OF HEAVY-DUTY LINING:

| Lining Stages | Components | Estimated Quantity per $m^2$* | Nominal Thickness |
|---|---|---|---|
| Primer | FedPrime MC808 Hydro-phobic Primer | 0.15ℓt | 100µm |
| Base Coat | FSX Filler<br>FedChem 98 Chemical Resistant Epoxy Laminating Resin - Clear | 3kg<br>1.5kg | 2mm |
| Reinforce Coat | 2 layers of 450g CSM Fibreglass<br>FedChem 98 Chemical Resistant Epoxy Laminating Resin - Clear | 2.2$m^2$<br>3kg | 2 - 3mm |
| Topcoat | FedChem 98 Chemical Resistant Epoxy Red Oxide | 0.7kg | 0.5mm |
| | | **Total DFT** | +/-5mm |

*The above figures are theoretical coverage figures & have not taken wastage into account when estimating quantity per $m^2$.

## SURFACE PREPARATION:

Concrete: All surfaces must be clean, mechanically sound and free of oil, dirt & dust. Concrete and cement screeds to preferably have a wood float finish, with a minimum compressive strength of 25mPa. Abrasive blast or acid etch to remove laitance. Moisture content should be below 10%.

Steel: All surfaces must be clean, mechanically sound and free of oil, dirt & dust. Ensure soluble salts are removed by high pressure washing with an industrial de-greaser.
Grit-blast to Sa2½ (ISO 8501-1:2007), Minimum 75µm angular profile.
Where grit blasting is not possible, mechanically clean to St2.

**Additional Notes**

- Allowance must be made for expansion joints with a flexible polyurethane joint sealant.
- Reinstate damaged concrete to a level finish to accept the lining.
- All 90º angles, protrusions & imperfections must be rounded in order to accept the lining system.

**Condition Specifications:**

- Substrate Temperature: Min 10ºC, 3ºC above dew point.
- Relative Humidity: Max 85%

## APPLICATION:

**Primer:**
Prime with FedPrime MC808 Epoxy Primer @ +-7m²/litre.
Allow primer to dry as per data sheet before proceeding.

**Base Coat:**
Thoroughly mix the FedChem 98 Clear laminating resin (base & activator) together in the given proportions using a mechanical whip. Ensure that the components are fully mixed. Add the FSX cementitious powder filler to the mixed resin in a 2 : 1 filler/resin ratio. Fully blend the filler into the mixture using a mechanical whip. Never mix more material than can be applied within the stated pot life. The filled base coat should be trowelled onto the primed substrate with a plastering trowel in strips of approx. 1.2 metres wide at a nominal thickness of 1.5 – 2mm.

The 2 : 1 filler/resin ratio is a practical guide but will vary slightly with temperature. At low temperatures less filler will be needed to produce a good trowel-able consistency. At high temperatures more filler will be needed.When applying the base coat to vertical surfaces, increase the level of filler to resin used.

**Reinforce Coat:**
Thoroughly mix the FedChem 98 Clear laminating resin (base & activator) together in the given proportions using a mechanical whip. Ensure that the components are fully mixed. Cut 2 layers of 450g/m² CSM (Chop Strand Mat) fibreglass to overlay onto the base coat. The base coat should extend beyond the edges of the CSM by approx. 70mm.

Whilst the filled base coat is still wet, imbed the 1st layer of CSM fibreglass directly into the filled base coat with a short napped roller. This will ensure a good bond between the base coat and reinforce coat. Wet out the fibreglass layer with the mixed laminating resin using a brush or roller. Ensure that there are no dry spots and expel any air entrapment. Overlap the edges of adjacent fibreglass layers by approx. 70mm.

Depending on the size of the project, the optional 2nd layer of fibreglass can be applied wet on wet or after the 1st layer has cured to a tacky state. The 2nd layer of fibreglass is applied in the same manner as the 1st, using more mixed laminating resin. Allow the 2nd layer of fibreglass to cure before applying the topcoat. The entire reinforce coat is applied at a nominal thickness of 2 - 3mm.

**Topcoat:**
Thoroughly mix the FedChem 98 Red Oxide Spray Grade resin (base & activator) together in the given proportions using a mechanical whip. Ensure that the components are fully mixed. Apply by spray, roller or brush at approx. 2m²/litre. The topcoat is typically applied at a nominal thickness of 0.5mm. Please refer to the data sheets for FedChem 98 and FedPrime MC808 epoxy primer for more information on these products.