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# Corrosion Protection Linings & Coatings

Our complete range of Corrosion Protection Linings & Coatings.

# CORROSION PROTECTION LINING

## CHEMOLINE 3CN – Soft rubber lining

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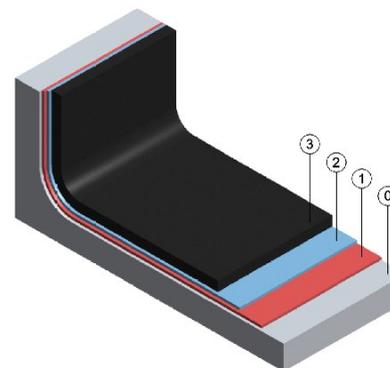
CHEMOLINE 3 CN is an already vulcanised black soft rubber lining based on Chloroprene rubber (CR), which is equipped with an easy to bond, reactive bonding layer. CHEMOLINE 3 CN can be loaded directly without further vulcanisation.

#### Properties

- Strong chemical resistance against mineral acids, bases, and aromatic oils
- Outstanding resistance against media containing a high percentage of solids
- Application onto steel and concrete components
- On site rubber lining

#### Area of application

- CHEMOLINE 3 CN is used mainly for on-site rubber linings of steel and concrete components which are exposed to abrasive conditions and chemical loads.
- The field of applications are chemical plants, chlorine and steel industries, mineral processing plants and environmental protection plants.
- Some typical examples of applications are the lining of storage tanks, agitated tanks and pipelines.



#### Application process

##### CHEMOLINE 3CN

- 0 - Steel, blasted
- 1 - PRIMER PR 304
- 2 - CEMENT BC 3004
- 3 - CHEMOLINE 3CN

### CHEMOLINE 3CN

#### Specifications

Polymer basis	CR	ISO 1629
Abrasion	≤ 200 mm <sup>3</sup> *	ISO 4649 (ASTM D5963)
Density	1.45 ± 0.02 g/cm <sup>3</sup>	EN ISO 1183-1
Hardness	60 ± 7 Shore A	ISO 7619-1 (ASTM D2240)
Max Surface Pressure	2 N/mm <sup>2</sup>	
Elongation at Break	≥ 300%***	DIN 53504 (ASTM D412)
Tensile Strength	≥ 6 N/mm <sup>2</sup> ***	DIN 53504 (ASTM D412)
Impact Resilience	≥ 25%	DIN 53512 (ASTM D1054)
Peel Strength to Steel	≥ 4 N/mm	ISO 813
Thermal Conductivity	0.32 W/m K	DIN 51046
Water Vapour Permeability	0.25 g/m <sup>2</sup> d**	DIN 53122
Max Continuous Operating Temp	+85 °C	
Temperature Range	-30 up to +85 °C	

Ref. No.	Designation	Dimensions
528 7842	CHEMOLINE 3/CN	3 mm x 1100 mm x 10000mm
528 7859	CHEMOLINE 3/CN	4 mm x 1100 mm x 10000mm
528 7866	CHEMOLINE 3/CN	5 mm x 1100 mm x 10000mm
528 7873	CHEMOLINE 3/CN	6 mm x 1100 mm x 10000mm

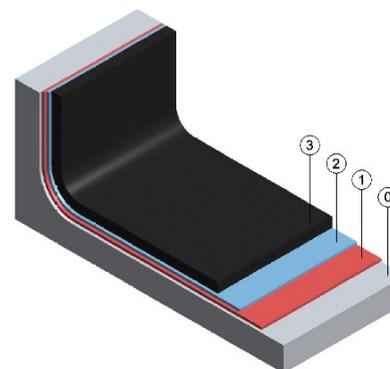
- \* Press vulcanisation
- \*\* Autoclave vulcanisation
- \*\*\* 4mm rubber

## CORROSION PROTECTION LINING

### REMA PERFORMANCEline CHEMO 4CN – Chemical resistant premium lining

### REMA PERFORMANCEline CHEMO 4CN – Chemical resistant premium lining

REMA PERFORMANCEline CHEMO 4CN is a chemical resistant soft-rubber lining material, based on bromobutyl rubber, suitable for steel- and concrete components which are exposed to high chemical loads. This new product is equipped with a smooth and glossy surface and has an improved UV resistance. The smooth surface reduces build up and caking problems during the whole process. It provides outstanding diffusion resistance, strong chemical resistance and a long service life accordingly.



#### Properties

- Simple and fast lining application
- Homogenous / uniform curing of the sheet gives it a longer life span
- Improved UV resistance
- The glossy surface reduces the chances of material build-up/depositing
- Strong chemical resistance
- Versatility of application surfaces like concrete, steel, stainless steel

#### Area of application

- On site linings of chemical contaminated steel and concrete.
- Chemical, chlorine, fertilizer, deionized water tanks in nuclear plants, ore processing up to environmental protection.
- Linings of bearing & stirrers, crystallization and condensation reactors, thickeners, pipelines and process tanks flue gas desulphurisation.

#### Application process

##### CHEMOLINE 4CN

- 0 - Steel, blasted
- 1 - PRIMER PR 304
- 2 - CEMENT BC 3004
- 3 - CHEMOLINE 4CN

### REMA PERFORMANCEline CHEMO 4CN

#### Specifications

Polymer basis	BIIR	DIN ISO 1629
Specific Weight	1.25 g/cm <sup>3</sup>	DIN EN ISO 1183-1
Hardness	55 Shore A	DIN ISO 7619-1
Colour	Black	
Abrasion	≤ 320 mm <sup>3</sup>	DIN ISO 4649
Max Surface Pressure	2 N/mm <sup>2</sup>	
Surface Resistance	Ω ≥ 10 <sup>12</sup>	DIN IEC 60093
Peel strength to Steel	≥ 4 N/mm	ISO 813
Water Vapour Permeability	0.04g/m <sup>2</sup> d	DIN 53122

Ref. No.	Designation	Dimensions
521 5000	REMA PERFORMANCEline CHEMO 4CN	3 mm x 1100 mm x 10000mm
521 5005	REMA PERFORMANCEline CHEMO 4CN	4 mm x 1100 mm x 10000mm
521 5010	REMA PERFORMANCEline CHEMO 4CN	5 mm x 1100 mm x 10000mm
521 5015	REMA PERFORMANCEline CHEMO 4CN	6 mm x 1100 mm x 10000mm

# CORROSION PROTECTION LINING

## CHEMOLINE 4A – Soft rubber lining

### CHEMOLINE 4A – Soft rubber lining

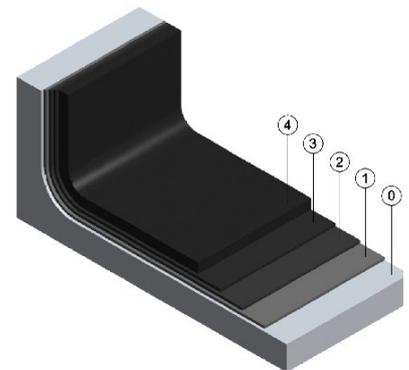
CHEMOLINE 4 A is a black soft rubber lining based on Bromobutyl rubber (BIIR).

#### Properties

- Strong chemical resistance against mineral acids, bases, polar solvents and salt solutions
- Outstanding diffusion resistance to sulphur dioxide and saturated water vapour
- High thermal stability (max. +110°C)
- Application onto steel components
- Workshop rubber lining

#### Area of application

- CHEMOLINE 4 A is used mainly for the workshop rubber lining of steel components which are exposed to chemical loads.
- The field of applications are chemical plants, chlorine and steel industries, fertilizer manufacturing plants, phosphoric acid plants, mineral processing plants, power plants and environmental protection plants.
- Some typical examples of applications are the lining of storage tanks, agitated tanks, crystallization and condensation reactors and pipelines in flue gas desulphurisation (FGD) plants.



#### Application process

##### CHEMOLINE 4A

- 0 - Steel, blasted
- 1 - PRIMER PR 500-1
- 2 - PRIMER S 500-2
- 3 - ADHESIVE TC 5000
- 4 - CHEMOLINE 4A

### CHEMOLINE 4A

#### Specifications

Polymer basis	BIIR	ISO 1629
Abrasion	≤ 320 mm <sup>3</sup> *	ISO 4649 (ASTM D5963)
Density	1.25 ± 0.02 g/cm <sup>3</sup>	EN ISO 1183-1
Hardness	55 ± 5 Shore A	ISO 7619-1 (ASTM D2240)
Max Surface Pressure	2 N/mm <sup>2</sup>	
Elongation at Break	≤ 600***	DIN 53504 (ASTM D412)
Tensile Strength	≥ 5 N/mm <sup>2</sup> ***	DIN 53504 (ASTM D412)
Impact Resilience	≥ 6%	DIN 53512 (ASTM D1054)
Peel Strength to Steel	≥ 4 N/mm	ISO 813
Thermal Conductivity	0.33 W/m K	DIN 51046
Water Vapour Permeability	0.04 g/m <sup>2</sup> d**	DIN 53122
Max Continuous Operating Temp	+110 °C	
Temperature Range	-40 up to +110 °C	

Ref. No.	Designation	Dimensions
528 2720	CHEMOLINE 4A	2 mm x 1100 mm x 10000mm
528 2768	CHEMOLINE 4A	3 mm x 1100 mm x 10000mm

- \* Press vulcanisation
- \*\* Autoclave vulcanisation
- \*\*\* 4mm rubber

# CORROSION PROTECTION LINING

## CHEMOLINE 4B – Soft rubber lining

### CHEMOLINE 4B – Soft rubber lining

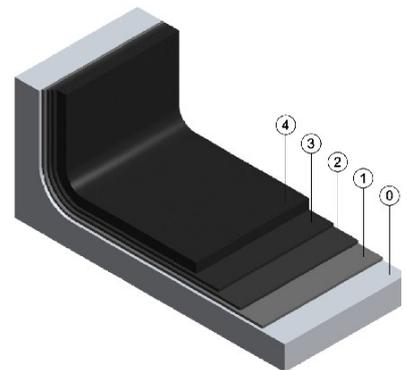
CHEMOLINE 4 B is a self-vulcanizing black rubber lining based on Bromobutyl rubber (BIIR).

#### Properties

- Strong chemical resistance against mineral acids, bases, polar solvents and salt solutions
- Outstanding diffusion resistance to sulphur dioxide and saturated water vapour
- High thermal stability (max. +110°C)
- Application onto steel components
- On site rubber lining

#### Area of application

- CHEMOLINE 4 B is used mainly for on-site and workshop rubber linings of steel components which are exposed to chemical loads.
- The field of applications are chemical plants, chlorine and steel industries, fertilizer manufacturing plants, phosphoric acid plants, mineral processing plants, power plants and environmental protection plants.
- Some typical examples of applications are the lining of storage tanks, agitated tanks, thickeners, as well as structural components of flue gas desulphurisation (FGD) plants such as absorbers and more.



#### Application process

##### CHEMOLINE 4B

- 0 - Steel, blasted
- 1 - PRIMER PR 500-1
- 2 - PRIMER S 500-2
- 3 - ADHESIVE TC 5000
- 4 - CHEMOLINE 4B

### CHEMOLINE 4B

#### Specifications

Polymer basis	BIIR	ISO 1629
Abrasion	≤ 320 mm <sup>3</sup> *	ISO 4649 (ASTM D5963)
Density	1.25 ± 0.02 g/cm <sup>3</sup>	EN ISO 1183-1
Hardness	55 ± 5 / 60 ± 5 Shore A****	ISO 7619-1 (ASTM D2240)
Elongation at Break	≥ 600%***	DIN 53504 (ASTM D412)
Tensile Strength	≥ 5 N/mm <sup>2</sup> ****	DIN 53504 (ASTM D412)
Impact Resilience	≥ 6%*	DIN 53512 (ASTM D1054)
Peel Strength to Steel	≥ 4 N/mm	ISO 813
Thermal Conductivity	0.33 W/m K	DIN 51046
Water Vapour Permeability	0.04 g/m <sup>2</sup> d****	DIN 53122
Max Continuous Operating Temp	+110 °C	
Temperature Range	-40 up to +110 °C	

Ref. No.	Designation	Dimensions
528 2933	CHEMOLINE 4B	2 mm x 1100 mm x 10000mm
528 2971	CHEMOLINE 4B	3 mm x 1100 mm x 10000mm
528 3011	CHEMOLINE 4B	4 mm x 1100 mm x 10000mm
528 3059	CHEMOLINE 4B	5 mm x 1100 mm x 10000mm
528 3059	CHEMOLINE 4B	6 mm x 1100 mm x 10000mm

\* Press vulcanisation

\*\*\* 4mm rubber

\*\*\*\* After pressure less vulcanisation (sample plates)

\*\*\*\* After complete vulcanisation under operating conditions

# CORROSION PROTECTION LINING

## CHEMOLINE 4CN – Soft rubber lining

### CHEMOLINE 4CN – Soft rubber lining

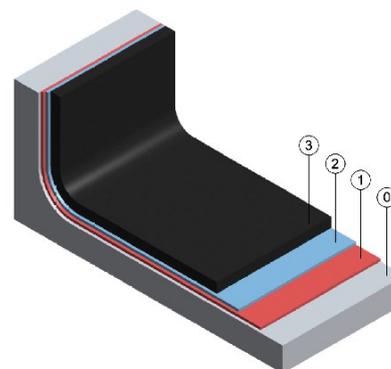
CHEMOLINE 4 CN is an already vulcanised black soft rubber lining based on Bromobutyl rubber (BIIR), which is equipped with an easy to bond, reactive bonding layer. CHEMOLINE 4 CN can be loaded directly without further vulcanisation.

#### Properties

- Strong chemical resistance against mineral acids, bases, polar solvents and salt solutions
- Outstanding diffusion resistance to sulphur dioxide and saturated water vapour
- Application onto steel and concrete components
- Can be exposed to the operation conditions right after the application
- On site rubber lining

#### Area of application

- CHEMOLINE 4 CN is used mainly for on-site rubber linings of steel and concrete components which are exposed to chemical loads.
- The field of applications are chemical plants, chlorine and steel industries, fertilizer manufacturing plants, power plants, mineral processing plants and environmental protection plants.
- Some typical examples of applications are the lining of storage tanks, agitated tanks, crystallization and condensation reactors, thickeners, pipe spools and more.



#### Application process

- CHEMOLINE 4CN**
- 0 - Steel, blasted
  - 1 - PRIMER PR 304
  - 2 - CEMENT BC 3004
  - 3 - CHEMOLINE 4CN

### CHEMOLINE 4CN

#### Specifications

Polymer basis	BIIR	ISO 1629
Abrasion	≤ 320 mm <sup>3</sup> *	ISO 4649 (ASTM D5963)
Density	1.25 ± 0.02 g/cm <sup>3</sup>	EN ISO 1183-1
Hardness	55 ± 5 Shore A**	ISO 7619-1 (ASTM D2240)
Max Surface Pressure	2 N/mm <sup>2</sup>	
Elongation at Break	≥ 370 %***	DIN 53504 (ASTM D412)
Tensile Strength	≥ 4 N/mm <sup>2</sup> ***	DIN 53504 (ASTM D412)
Peel Strength to Steel	≥ 4 N/mm	ISO 813
Thermal Conductivity	0.32 W/m K	DIN 51046
Water Vapour Permeability	0.04 g/m <sup>2</sup> d***	DIN 53122
Max Continuous Operating Temp	+90 °C	
Temperature Range	-40 up to +90 °C	

Ref. No.	Designation	Dimensions
528 7897	CHEMOLINE 4CN	3 mm x 1100 mm x 10000mm
528 7907	CHEMOLINE 4CN	4 mm x 1100 mm x 10000mm
528 7914	CHEMOLINE 4CN	5 mm x 1100 mm x 10000mm
528 7921	CHEMOLINE 4CN	6 mm x 1100 mm x 10000mm

- \* Press vulcanisation
- \*\* Autoclave vulcanisation
- \*\*\* 4mm rubber

# CORROSION PROTECTION LINING

## CHEMOLINE 12CN FDA – Soft rubber lining

### CHEMOLINE 12CN FDA – Soft rubber lining

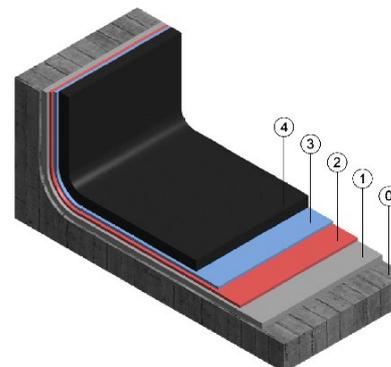
CHEMOLINE 12 CN is an already vulcanised black soft rubber lining based on Chlorobutyl rubber (CIIR), which is equipped with an easy to bond, reactive bonding layer. CHEMOLINE 12 CN can be loaded directly without further vulcanisation.

#### Properties

- Strong resistance against mineral acids, bases and polar solvents
- Excellent diffusion resistance against gases like sulphur dioxide, nitrogen oxides, and saturated water vapour
- High insulation resistance
- Application onto steel and concrete components
- Can be exposed to the operation conditions right after the application
- On site rubber lining
- Certificate of suitability for aqueous food in accordance with the guidelines CFR 21§ 177.2600 of the Food and Drug Administration (FDA)

#### Area of application

- CHEMOLINE 12 CN is developed specifically for the on-site rubber lining of chemically loaded steel or concrete components.
- The field of applications are mainly water treatment facilities and the chemical industry.
- Some typical examples of applications are the linings of storage tanks and agitated tanks, basins, pipe spools as well as various vessels in the phosphoric acid industry.



#### Application process

##### CHEMOLINE 12CN FDA

- 0 - Concrete, blasted
- 1 - REMAFIX C (Smoothing coat, conductive)
- 2 - PRIMER PR 304
- 3 - CEMENT BC 3004
- 4 - CHEMOLINE 12 CN

### CHEMOLINE 12CN FDA

#### Specifications

Polymer basis	CIIR	ISO 1629
Abrasion	≤ 300 mm <sup>3</sup> *	ISO 4649 (ASTM D5963)
Density	1.08 ± 0.02 g/cm <sup>3</sup>	EN ISO 1183-1
Hardness	50 ± 5 Shore A**	ISO 7619-1 (ASTM D2240)
Max. Surface Pressure	2 N/mm <sup>2</sup>	
Surface Resistance	≥ 10 Ω	DIN IEC 60093
Elongation at Break	≥ 150 %***	DIN 53504 (ASTM D412)
Tensile Strength	≥ 6 N/mm <sup>2</sup> ***	DIN 53504 (ASTM D412)
Impact Resilience	≥ 6 %	DIN 53512 (ASTM D1054)
Peel Strength to Steel	≥ 4 N/mm	ISO 813
Max Continuous Operating Temp	+70 °C	
Temperature Range	-40 up to +70 °C	

Ref. No.	Designation	Dimensions
528 2300	CHEMOLINE 12CN	3 mm x 1100 mm x 10000mm
528 2310	CHEMOLINE 12CN	4 mm x 1100 mm x 10000mm
528 2320	CHEMOLINE 12CN	5 mm x 1100 mm x 10000mm
528 2330	CHEMOLINE 12CN	6 mm x 1100 mm x 10000mm

- \* Press vulcanisation
- \*\* Autoclave vulcanisation
- \*\*\* 4mm rubber

# CORROSION PROTECTION LINING

## CHEMOLINE 13 – Soft rubber lining

### CHEMOLINE 13 – Soft rubber lining

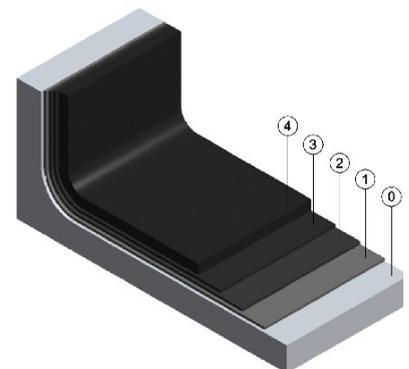
CHEMOLINE 13 is a black soft rubber lining based on Bromobutyl rubber (BIIR). CHEMOLINE 13 shows excellent chemical resistance against concentrated hydrochloric acid and hypochlorite.

#### Properties

- Very good resistance against mineral acids, bases, polar solvents and especially against concentrated hydrochloric acid  $\leq 38\%$  up to  $+60^{\circ}\text{C}$  and sodium hypochlorite
- Excellent diffusion resistance against gases like sulphur dioxide, nitrogen oxides, and saturated water vapour
- Suitable for vacuum services
- High thermal stability (max.  $+115^{\circ}\text{C}$ )
- Application onto steel components
- On site & Workshop rubber lining

#### Area of application

- CHEMOLINE 13 is used mainly for workshop and on-site rubber linings of steel components which are exposed to chemical loads.
- The field of applications are mainly chemical plants, chlorine and steel industries, mineral processing plants and environmental protection plants.
- Some typical examples of applications are the lining of storage tanks, agitated tanks, crystallization and condensation reactors and flue gas desulphurisation plants (FGD). Furthermore CHEMOLINE 13 is used in phosphoric acid plants and autoclaves.



#### Application process

##### CHEMOLINE 13

- 0 - Steel, blasted
- 1 - PRIMER PR 500-1
- 2 - PRIMER S 500-2
- 3 - ADHESIVE TC 5000
- 4 - CHEMOLINE 13

### CHEMOLINE 13

#### Specifications

Polymer basis	BIIR	ISO 1629
Abrasion	$\leq 250 \text{ mm}^3$ *	ISO 4649 (ASTM D5963)
Density	$1.24 \pm 0.02 \text{ g/cm}^3$	EN ISO 1183-1
Hardness	$60 \pm 5 \text{ Shore A}^{**}$	ISO 7619-1 (ASTM D2240)
Max Surface Pressure	$2 \text{ N/mm}^2$	
Elongation at Break	$\geq 450\%^{***}$	DIN 53504 (ASTM D412)
Tensile Strength	$\geq 8 \text{ N/mm}^2^{***}$	DIN 53504 (ASTM D412)
Impact Resillience	$\geq 8\%$	DIN 53512 (ASTM D1054)
Peel Strength to Steel	$\geq 4 \text{ N/mm}$	ISO 813
Water Vapour Permeability	$0.08 \text{ g/m}^2 \text{ d}^{***}$	DIN 53122
Max Continuous Operating Temp	$+115^{\circ}\text{C}$	

Ref. No.	Designation	Dimensions
528 7100	CHEMOLINE 13	2 mm x 1100 mm x 10000mm
528 1710	CHEMOLINE 13	3 mm x 1100 mm x 10000mm
528 1720	CHEMOLINE 13	4 mm x 1100 mm x 10000mm
528 1730	CHEMOLINE 13	5 mm x 1100 mm x 10000mm
528 1740	CHEMOLINE 13	6 mm x 1100 mm x 10000mm

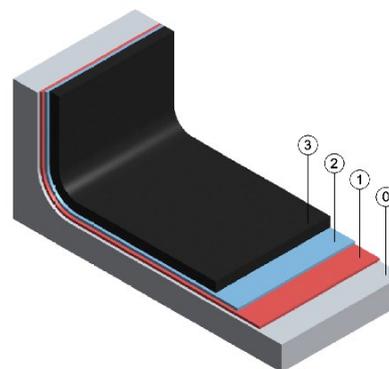
- \* Press vulcanisation
- \*\* Autoclave vulcanisation
- \*\*\* 4mm rubber

# CORROSION PROTECTION LINING

## CHEMOLINE 70CN – Soft rubber lining

### CHEMOLINE 70CN – Soft rubber lining

CHEMOLINE 70 CN is an already vulcanised black soft rubber lining based on Chlorobutyl rubber and Polyvinyl Chloride (CIIR / PVC), which is equipped with an easy to bond, reactive bonding layer. CHEMOLINE 70 CN shows excellent resistance against concentrated hydrochloric acid at temperatures up to +60°C. CHEMOLINE 70 CN can be loaded directly without further vulcanisation.



#### Properties

- Very good resistance against mineral acids, bases and especially against concentrated hydrochloric acid  $\leq 38\%$  up to +60°C
- Application onto steel and concrete components
- Can be exposed to the operation conditions right after the application
- On site rubber lining

#### Area of application

- CHEMOLINE 70 CN is used mainly for on-site rubber linings of steel or concrete storage containers for concentrated hydrochloric acid up to +60 °C.
- Further examples to the applications include the lining of acid pickling lines (pickling baths) and electroplating baths.

#### Application process

- CHEMOLINE 70CN**
- 0 - Steel, blasted
  - 1 - PRIMER PR 304
  - 2 - CEMENT BC 3004
  - 3 - CHEMOLINE 70 CN

### CHEMOLINE 70CN

#### Specifications

Polymer basis	CIIR/PVC	ISO 1629
Density	1.18 ± 0.02 g/cm <sup>3</sup>	EN ISO 1183-1
Contact Resistance	1.5 x 10 <sup>(11)</sup> Ω cm	DIN IEC 60093
Hardness	57 ± 5 Shore A**	ISO 7619-1 (ASTM D2240)
Max. Surface Pressure	2 N/mm <sup>2</sup>	
Surface Resistance	3.5 x 10 <sup>(11)</sup> Ω	DIN IEC 60093
Elongation at Break	≥ 400%***	DIN 53504 (ASTM D412)
Tensile Strength	≥ 2.5 N/mm <sup>2</sup> ***	DIN 53504 (ASTM D412)
Peel Strength to Steel	≥ 4 N/mm	ISO 813
Max Continuous Operating Temp	+80 °C	
Temperature Range	-30 up to +80 °C	

Ref. No.	Designation	Dimensions
528 8140	CHEMOLINE 70CN	3 mm x 1100 mm x 10000mm
528 8157	CHEMOLINE 70CN	4 mm x 1100 mm x 10000mm
528 8164	CHEMOLINE 70CN	5 mm x 1100 mm x 10000mm
528 8171	CHEMOLINE 70CN	6 mm x 1100 mm x 10000mm

\*\* Autoclave vulcanisation  
\*\*\* 4mm rubber

# CORROSION PROTECTION LINING

## CHEMOLINE RTCN – Soft rubber lining

### CHEMOLINE RT CN – Soft rubber lining

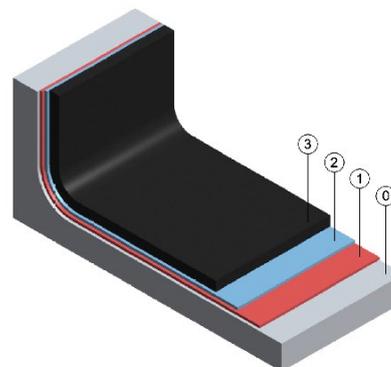
CHEMOLINE RT CN is an already vulcanised black soft rubber lining based on a co-polymerised Bromobutyl rubber (BIIR), which is equipped with an easy to bond, reactive bonding layer. CHEMOLINE RT CN can be loaded directly without further vulcanisation.

#### Properties

- Strong resistance against mineral acids
- Strong resistance against temperature excursions
- Good resistance against UV and ozone
- Application onto steel and concrete components
- Can be exposed to the operation conditions right after the application
- On site rubber lining

#### Area of application

- CHEMOLINE RT CN is used mainly for the on-site rubber lining of the steel components which are exposed to chemical loads.
- The field of applications are mainly chemical plants, chlorine and steel industries, mineral processing plants and environmental protection plants.
- Some typical examples of applications are the rubber linings of storage tanks, agitated tanks, crystallization and condensation reactors and road tankers.



#### Application process

##### CHEMOLINE RT CN

- 0 - Steel, blasted
- 1 - PRIMER PR 304
- 2 - CEMENT BC 3004
- 3 - CHEMOLINE RT CN

### CHEMOLINE RT CN

#### Specifications

Polymer basis	BIIR	ISO 1629
Abrasion	≤ 250 mm <sup>3</sup> *	ISO 4649 (ASTM D5963)
Density	1.23 ± 0.02 g/cm <sup>3</sup>	EN ISO 1183-1
Contact Resistance	7.0 x 10(10) Ω cm	DIN IEC 60093
Hardness	65 ± 5 Shore A**	ISO 7619-1 (ASTM D2240)
Max Surface Pressure	2 N/mm <sup>2</sup>	
Surface Resistance	90 x 10(10) Ω	DIN IEC 60093
Elongation at Break	≥ 150 %***	DIN 53504 (ASTM D412)
Tensile Strength	≥ 8 N/mm <sup>2</sup> ***	DIN 53504 (ASTM D412)
Impact Resilience	≥ 8%	DIN 53512 (ASTM D1054)
Peel Strength to Steel	≥ 4 N/mm	ISO 813
Temperature Range	-40 up to +120 °C	

Ref. No.	Designation	Dimensions
528 8140	CHEMOLINE RT CN	3 mm x 1100 mm x 10000 mm
528 8157	CHEMOLINE RT CN	4 mm x 1100 mm x 10000 mm
528 8164	CHEMOLINE RT CN	5 mm x 1100 mm x 10000 mm
528 8171	CHEMOLINE RT CN	6 mm x 1100 mm x 10000 mm

- \* Press vulcanisation
- \*\* Autoclave vulcanisation
- \*\*\* 4mm rubber

# CORROSION PROTECTION LINING

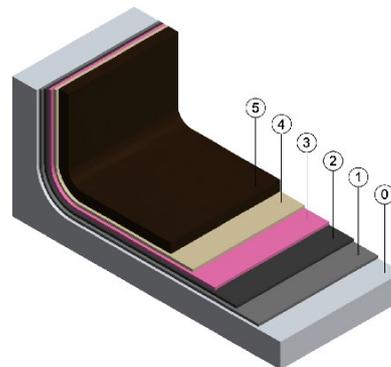
## CHEMONIT 33 – Hard rubber lining

### CHEMONIT 33 – Hard rubber lining

CHEMONIT 33 is an anthracite-coloured, graphite-filled hard rubber lining based on Natural rubber (NR).

#### Properties

- Strong chemical resistance against mineral acids, bases and especially excellent resistance against wet chlorine and concentrated hydrochloric acid
- High diffusion resistance
- High thermal stability (max. +105°C)
- Application onto steel components
- Workshop rubber lining
- CHEMONIT 33 is used mainly for the workshop rubber lining of steel components which are exposed to chemical loads.
- The field of applications are mainly chemical plants, chlorine and steel industry, mineral processing plants, electroplating facilities and environmental protection plants.
- Some typical examples of applications are the rubber linings of storage tanks, filter tanks, agitated tanks, ion exchangers, electroplating baths, centrifuge drums and flue gas scrubbers in waste incinerators, pipe spools.



#### Application process

##### CHEMONIT 33

- 0 - Steel, blasted
- 1 - PRIMER HG 1
- 2 - PRIMER HG 2
- 3 - ADHESIVE SH-3A SOLUTION
- 4 - ADHESIVE PARA SOLUTION
- 5 - CHEMONIT 33

### CHEMONIT 33

#### Specifications

Polymer basis	NR	ISO 1629
Bending Strength	≥ 80 N/mm <sup>2</sup> *	EN ISO 178
Density	1.16 ± 0.02 g/cm <sup>3</sup>	EN ISO 1183-1
Modulus of Elasticity	≥ 2000* N/mm <sup>2</sup>	EN ISO 527 (ASTM D638)
Hardness	75 ± 5 Shore D**	ISO 7619-1 (ASTM D2240)
Max. Surface Pressure	10 N/mm <sup>2</sup>	
Adhesion Strength Steel	≥ 6 N/mm <sup>2</sup>	EN ISO 4624 (ASTM D429; method E)
Elongation at Break	≥ 3%***	DIN 53504 (ASTM D412)
Tensile Strength	≥ 40 N/mm <sup>2</sup> ***	DIN 53504 (ASTM D412)
Coefficient of Thermal Expansion	90 x 10(-6) 1/K	DIN 53752
Max Continuous Operating Temp	+100 °C	
Temperature Range	-15 up to +100 °C	

Ref. No.	Designation	Dimensions
529 3922	CHEMONIT 33	2 mm x 1100 mm x 10000 mm
529 3960	CHEMOLINE 70CN	3 mm x 1100 mm x 10000 mm

- \* Press vulcanisation
- \*\* Autoclave vulcanisation
- \*\*\* 4 mm rubber

# CORROSION PROTECTION LINING

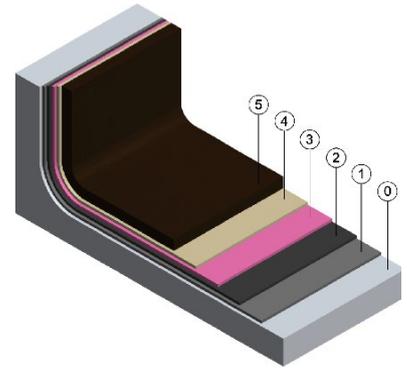
## CHEMONIT 181 – Hard rubber lining

### CHEMONIT 181 – Hard rubber lining

CHEMONIT 181 is a black hard rubber lining based on Polyisoprene rubber (IR) and Styrene Butadiene rubber (SBR).

#### Properties

- Strong chemical resistance against mineral acids and bases
- High diffusion resistance
- Application onto steel components
- Workshop rubber lining
- CHEMONIT 181 is approved (Z-59.22-142) by the German Institute of Construction Technology (DIBt) for steel storage vessels.
- Certificate of suitability for aqueous food in accordance with the guidelines CFR 21§ 177.2600 of the Food and Drug Administration (FDA)
- BS 6920 (British Standard) => WRAS-listing



#### Application process

#### Area of application

- CHEMONIT 181 is used mainly for the workshop rubber lining of steel components which are exposed to chemical loads. The field of applications are mainly chemical plants, chlorine and steel industry, electricity generating plants, mineral processing plants and environmental protection plants. Some typical examples of applications are the rubber linings of storage tanks, filter tanks, agitated tanks, water treatment tanks, crystallization reactors, centrifuge drums as well as various tanks and pipelines in nuclear power plants.

#### CHEMONIT 181

- 0 - Steel, blasted
- 1 - PRIMER HG 1
- 2 - PRIMER HG 2
- 3 - ADHESIVE SH-3A SOLUTION
- 4 - ADHESIVE PARA SOLUTION
- 5 - CHEMONIT 181

### CHEMONIT 181

#### Specifications

Polymer basis	IR/SBR	ISO 1629
Bending Strength	≥ 40 N/mm <sup>2</sup> *	EN ISO 178
Density	1.32 ± 0.02 g/cm <sup>3</sup>	EN ISO 1183-1
Contact Resistance	10(11) Ω cm	DIN IEC 60093
Modulus of Elasticity	≥ 1500 N/mm <sup>2</sup> *	EN ISO 527 (ASTM D638)
Hardness	75 ± 5 Shore D**	ISO 7619-1 (ASTM D2240)
Max. Surface Pressure	10 N/mm <sup>2</sup>	
Adhesion Strength Steel	≥ 6 N/mm <sup>2</sup>	EN ISO 4624 (ASTM D429; method E)
Elongation at Break	≥ 3.5%***	DIN 53504 (ASTM D412)
Tensile Strength	≥ 20 N/mm <sup>2</sup> ***	DIN 53504 (ASTM D412)
Coefficient of Thermal Expansion	70 x 10 <sup>-6</sup> (-6) 1/K	DIN 53752
Max Continuous Operating Temp	+100 °C	
Temperature Range	-25 up to +100 °C	

## CORROSION PROTECTION LINING CHEMONIT 181 – Hard rubber lining

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Ref. No.	Designation	Dimensions
529 4921	CHEMONIT 181	2 mm x 1100 mm x 10000mm
529 4969	CHEMONIT 181	3 mm x 1100 mm x 10000mm
529 5009	CHEMONIT 181	4 mm x 1100 mm x 10000mm
529 5047	CHEMONIT 181	5 mm x 1100 mm x 10000mm
529 5085	CHEMONIT 181	6 mm x 1100 mm x 10000mm

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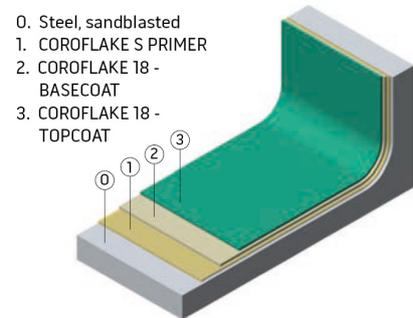
\* Press vulcanisation  
\*\* Autoclave vulcanisation  
\*\*\* 4mm rubber

# COATINGS FOR CONTAINER VESSELS, FLUE GAS SCRUBBERS, FLUE CHANNELS & CHIMNEYS

## COROFLAKE troweled coatings

The COROFLAKE systems applied with trowel are coatings for the protection of metallic parts from aggressive media under permanent wet immersion. They are based on polyester and vinyl ester resins and are strengthened with micro-thin C-glass flakes. The resins used offer outstanding protection against chemicals, while the glass flakes, which are aligned parallel to the substrate, offer excellent permeation resistance. A nominal thickness of 2.0 mm is achieved with only two layers. **These COROFLAKE trowelled coatings can be used up to a wet temperature of 90 °C.**

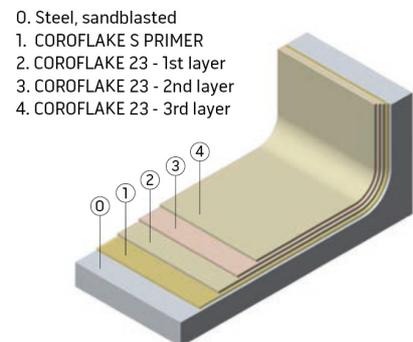
Typical build-up, using COROFLAKE 18 as example



## COROFLAKE spray coatings

The COROFLAKE systems, used throughout the world and applied with airless spraying equipment, combine the chemical resistance of trowelled coatings with the simplicity given by spraying. They are based on vinyl ester and epoxy-novolac resins, polyester resins and are either strengthened with C-glass, mineral or graphite flakes. In a 1 mm layer, around 100 flakes are arranged one above another and therefore form an outstanding diffusion resistance. Depending on exposure, two or more layers are applied to the substrate. The total thickness of the coating depends on the exposure and can be up to 2.5 mm thick. COROFLAKE spray coatings offer long-term economical protection of plant and a long service life. **High temperature-resistant COROFLAKE coatings can be used up to a maximum flue gas temperature of 230 °C.**

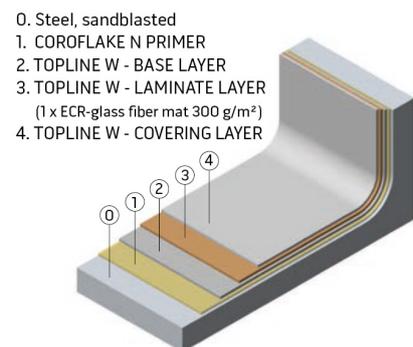
Typical build-up, using COROFLAKE 23 as example



## TOPLINE coatings

For these 3-4 mm thick glass mat reinforced coatings, polyester, vinyl ester, epoxy and epoxy-novolac resins are used. These coatings are characterized by their resistance to corrosion combined with excellent impact strength and abrasion resistance. If necessary, they can also be supplied in an electrically conducting form. The surfaces are grippy but non-porous and need no additional sealing. **They are primarily used in high-wear applications up to a wet temperature of 75 °C.**

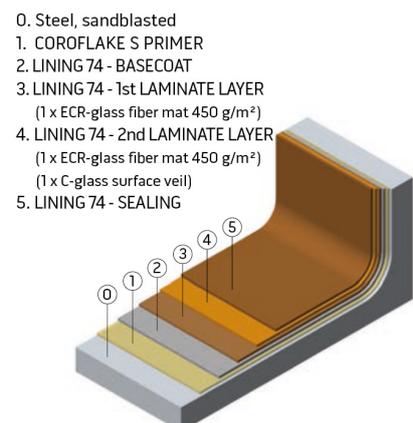
Typical build-up, using TOPLINE W as example



## TIP TOP LINING

Through using the same resins as the TOPLINE series, the best possible resistance to chemicals is assured by the high proportion of resin. The coating structure is formed by application of a primer followed by a basecoat layer, at least two glass mats and a surface veil. A thick resin sealing coat finishes off this 3.0 to 5.0 mm thick laminate coating. By using strengthening glass mats and flexible base coat layers, cracks up to 0.2 mm wide can be bridged. **The TIP TOP LINING offer good mechanical resistance properties at wet temperatures of up to 80 °C.**

Typical build-up, using TIP TOP LINING 74 as example



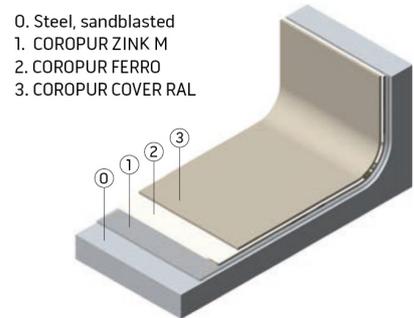
# COATINGS FOR CONTAINER VESSELS, FLUE GAS SCRUBBERS, FLUE CHANNELS & CHIMNEYS

## COROPUR polyurethane coatings for atmospheric corrosion protection

COROPUR is the brand name of our moisture-hardening one-component coating systems that can be applied by hand painting, rolling and spray methods. As well as their simple application and high degree of resistance to moisture, COROPUR systems are characterized by their combination of high surface hardness with high degree of elasticity that gives many years of corrosion protection to steel components. COROPUR also cures at very low temperatures and therefore it is relatively insensitive to ambient conditions.

In general, COROPUR is applied in at least 2 layers, each of around 50 - 80  $\mu$ m dry layer thickness. For corrosion protection of steel parts in accordance with EN ISO 12944-5 requirements (corrosivity categories C1 – C5-I and C5-M), COROPUR FERRO (intermediate layer), COROPUR FERRO LS (cover layer) and COROPUR COVER RAL (cover layer), in combination with suitable primers, are mainly used.

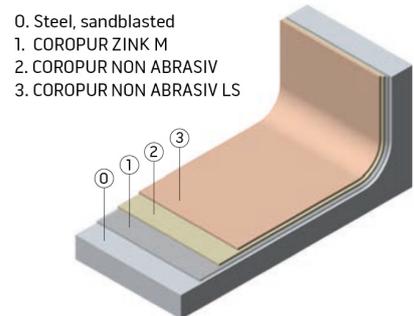
Typical build-up, using COROPUR COVER RAL as example



## COROPUR polyurethane coatings for water immersed steel structures

In general, COROPUR for hydraulic steel applications is applied in at least 3 layers, each of around 150 - 250  $\mu$ m dry layer thickness. For corrosion protection of hydraulic steel parts in accordance with EN ISO 12944-5 requirements (corrosivity categories Im1, Im2 and Im3 with fresh water, seawater and soil), COROPUR TAR, COROPUR TAR 21, COROPUR TF 21 and COROPUR NON ABRASIV, in combination with suitable primers, are mainly used.

Typical build-up, using COROPUR NON ABRASIV LS as example

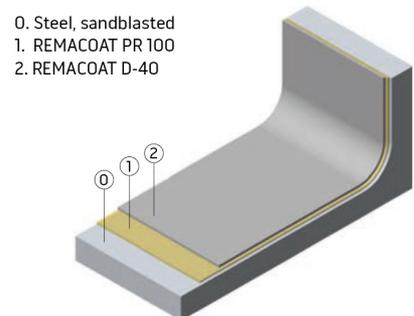


## REMACOAT polyurea coatings

REMACOAT coatings are highly-reactive two-component spray coatings on a polyurea basis. They are applied using two-component high-pressure spray equipment. In conjunction with a suitable primer, REMACOAT is used as coating for steel, concrete, light alloys, plastics and many other base materials. REMACOAT is insensitive to moisture and also cures at very low temperatures, thus making it relatively insensitive to ambient conditions. REMACOAT is available in hardnesses of 60 Shore A to 50 Shore D and can be used as multifunctional surface protection, for example for components seals, corrosion protection coatings, anti-caking protection and wear protection.

Depending on the exposures encountered, the layer thicknesses can vary between 1.5 and 25 mm and can be applied in one layer. REMACOAT coatings harden immediately and can be walked on just a few minutes after application.

Typical build-up, using REMACOAT D40 as example

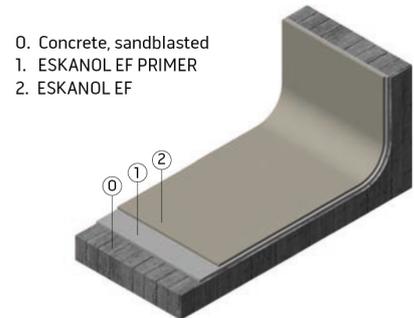


# COATINGS FOR INDUSTRIAL FLOORING, COLLECTION PITS AND WAREHOUSES

## COROFLOOR, ESKANOL and Asplit flow coatings

These are self-levelling synthetic resin coatings containing mineral fillers with – in general – smooth high-gloss surfaces and a layer thickness of 1 to 3 mm. Self-levelling coatings can be quickly applied and are available in many visually appealing colour variants. Matt and anti-slip surfaces can also be produced by the addition of suitable supplements. Epoxy and the vinyl ester resins constitute the vast majority of the applications.

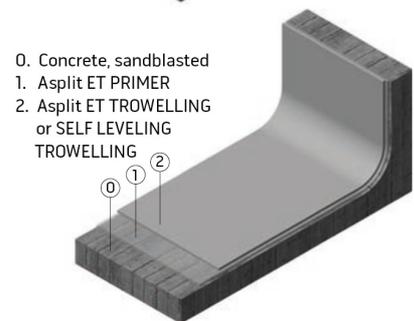
Typical build-up, using ESKANOL EF as example



## Asplit and ESKANOL trowelled coatings

Trowelled coatings split into those systems that are strengthened with glass-fiber mats, and high mineral content and manually applied coatings. Glass-fiber strengthened systems possess a high mechanical loading capacity. They are the solution of choice when the substrate tends to form cracks, while the other trowel coatings are often used as anti-wear coverings

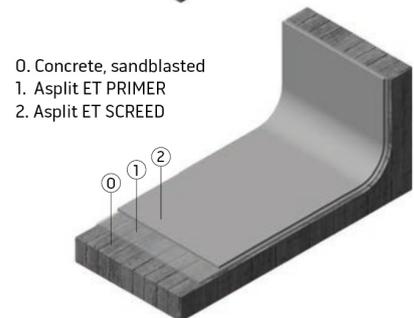
Typical build-up, using Asplit ET TROWELLING as example



## Asplit and ESKANOL synthetic resin screeds

For the floorings that are subject to extreme mechanical loads, epoxy based synthetic resin screeds are recommended. Application in layer thicknesses of 6 to 20 mm can be done manually or by machine. Synthetic resin screeds can be applied simply, quickly and seamlessly.

Typical build-up, using Asplit ET SCREED as example



## Laminate coatings

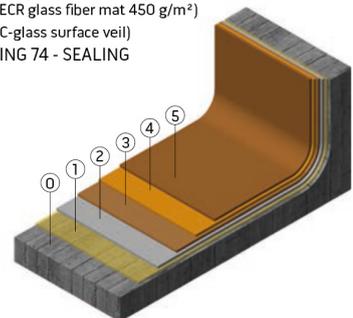
Laminate coatings are combinations of reaction resins with fiber materials (glass-fiber mats, fabrics). They are characterized by highly mechanical durability and even layer thicknesses. Their high durability qualifies them, for example, for use in bridging cracks in concrete parts that are to be coated.

Glass-fiber mats are of great importance for strengthening purposes, because the evenly spread fibers enable the mechanical strength characteristics to be increased in all directions. The mats often contain E-glass fibers and in special cases also ECR- or C-glass fibers. The mass per unit area (weights) are usually 300 or 450 g/m<sup>2</sup>.

The applied glass mats are normally covered with a surface veil. In laminate coatings, they are used to build up the chemical protection layer. The surface veil materials mainly determine the coating surface and directly affect its chemical properties. The resin-rich surface veil layer that covers the laminate layer should exhibit a sealed and even surface to prevent media penetration via glass fibers that have not been saturated in the resin. By preference, surface veils made of durable C-glass are used. Surface veils made from synthetic or carbon fibers offer resistance to special media such as hydrofluoric acid. Carbon-fiber surface veils, also known as hybrid surface veils, additionally impart an electrostatically conducting quality to the cover layer. The mass per unit area (weight) of these veils 20 to 50 g/m<sup>2</sup>. REMA TIP TOP uses synthetic resins based on furane, phenol, vinyl ester and epoxy for its laminate coatings, which are distributed under the brand names TIP TOP LINING, ESKANOL and Asplit.

Typical build-up, using TIP TOP LINING 74 as example

- 
0. Concrete, sandblasted  
1. LINING 74 BASE COAT  
2. LINING 74 - BASECOAT  
3. LINING 74 - 1st LAMINATE LAYER  
(1 x ECR glass fiber mat 450 g/m<sup>2</sup>)  
4. LINING 74 - 2nd LAMINATE LAYER  
(1 x ECR glass fiber mat 450 g/m<sup>2</sup>)  
(1 x C-glass surface veil)  
5. LINING 74 - SEALING



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