

PROTECTIVE COATINGS

solutions that cover your needs



SIGMA*Line*

Pipeline Range

Sigma Coatings is a brand of the SigmaKalon Group



The Sigma Pipeline *Outstanding*



SigmaKalon Marine and Protective Coatings is dedicated to the development, manufacture and supply of coatings to meet the very challenging needs of specific industries.

With a heritage of outstanding expertise in coatings technology and decades of international investments in research and development for the protective coatings market, no company

could be better placed than

SigmaKalon Marine and

Protective Coatings to meet

the fast-changing global

challenges of this

technically demanding

sector.

Exceptional conditions demand technically superior coatings. SigmaKalon's Pipeline range offers protective coating solutions that have been proven in the most extreme situations.

Whether pipes are thermally insulated, buried or submerged and whether your project is new construction or maintenance, SigmaKalon provides maximum internal and external corrosion protection as well as temperature resistance. Each coating has been developed to deliver added value through versatility, long service life, ease of application and consistent quality. From phenolic epoxy coatings that withstand higher temperatures to a specialist solution that enhances efficient gas flow, SigmaKalon offers outstanding solutions to meet your needs.

Protective Coatings solutions for your pipeline requirements

Pipe	Temperature	Gas	Oil	Water
Exterior	A 60 °C	SigmaLine 859	SigmaLine 859	SigmaLine 859
		SigmaLine 855	SigmaLine 855	SigmaLine 855
	B 60 °C	SigmaLine 2000	SigmaLine 2000	-
		SigmaLine 2500	SigmaLine 2500	-
Interior	-	SigmaLine 403	SigmaLine 445	-
	-	-	Sigma Novaguard*	SigmaLine 523
	-	-	-	SigmaGuard CSF 575
	-	-	-	SigmaGuard CSF 585

* see SigmaGuard Tanklining Range brochure

All these pipeline coatings – except the highly specialised SigmaLine 403 and SigmaLine 445 – are solvent free, eliminating explosion risk, fire hazard and improved working safety.

Range *protection*



SigmaLine 2500

Two component solvent free amine cured phenolic epoxy coating

A one coat system with proven results in the toughest conditions, SigmaLine 2500 offers high resistance to cathodic protection as well as against a wide range of chemicals and solvents. SigmaLine 2500 is designed especially for pipe mill applications where a speed of cure is key. The product is dry to handle in 10 minutes, which equates to around 20 joints an hour. SigmaLine 2500 can be applied by airless spray to rotating pipes at a substrate temperature up to 90°C while achieving a dft of 600 µm. The system has been tested and approved Saudi Aramco APCS 113 standard.

- Solvent free phenolic epoxy for pipe externals
- One coat system directly to steel
- Fast curing especially when applied to a preheated substrate
- Good resistance to cathodic protection at elevated temperatures
- Meets Saudi Aramco APCS 113 specification
- Glossy and smooth appearance
- Excellent adhesion to FBE/steel
- Good adhesion to PE/PP
- Colour: dark brown – gloss

SigmaLine 2000

Two component solvent free amine cured phenolic epoxy coating

A one coat system suitable for such demanding work like bell holing, SigmaLine 2000 is an extremely tough and durable system offering long term external protection of pipelines operating at temperatures above 60°C. SigmaLine 2000 can be applied by standard single feed airless equipment makes it an ideal choice for pipeline rehabilitation and it can even be applied to hot substrates up to 90°C. The system has been tested and approved Saudi Aramco APCS 113 standard.

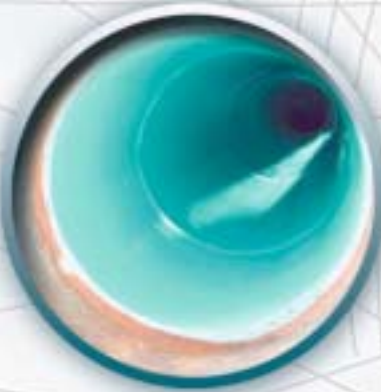
- Solvent free phenolic epoxy for pipe externals
- One coat system directly to steel
- Excellent resistance to cathodic protection at elevated temperatures
- Meets Saudi Aramco APCS 113 specification
- Glossy and smooth appearance
- Can be applied by heavy duty single feed airless spray (60:1)
- Excellent adhesion to FBE/steel
- Good adhesion to PE/PP
- Colour: red brown – gloss

Solvent free phenolic epoxy has proved to perform in those areas where conventional coatings do not. Even with cathodic protection, phenolic epoxy offers temperature resistance ranging from 100-160°C – the inlet temperatures of many buried exterior or sub-sea pipelines. Original trials over 3 years show that solvent free phenolic epoxy outperforms conventional epoxy, FBE and solvent free polyurethane, by demonstrating excellent cathodic disbondment resistance at high temperatures even in wet saline conditions.

SigmaLine 2500 and SigmaLine 2000 are both phenolic epoxy coatings.

The Sigma Pipeline

Tough enough



SigmaLine 859

Two component solvent free polyurethane tar coating

A classic combination of benefits makes this highly versatile solvent free coating an effective and economical choice. As well as excellent corrosion resistance SigmaLine 859 provides strong resistance to abrasion and water, ensuring a long and reliable service. Application is by twin feed hot airless spray. With a fast curing time, the coating is dry to handle in just one hour at 20°C, leaving a distinctive black gloss finish.

- Solvent free and polyurethane tar coating for pipe externals
- One coat directly to steel
- Tested according to DIN 30671
- Excellent corrosion resistance
- Fast curing, it will cure in 3 minutes when applied to preheated substrate
- Good abrasion and impact resistance
- Excellent adhesion
- Good water resistance
- Glossy and smooth appearance
- Colour: black - gloss

SigmaLine 855

Two component solvent free polyurethane coating

SigmaLine 855 is developed to provide high quality protection across a range of applications, SigmaLine 855 is certified to GBE/CW6 Part 1. With superb corrosion resistance, high levels of abrasion and impact resistance, SigmaLine 855 is a proven performer. Excellent adhesion ensures reliability and reduces repair and maintenance times. This fast curing coating is dry to handle in one hour at 20°C and is readily available in blue, grey and red brown gloss.

- Solvent free and tar free polyurethane for pipe externals
- One coat system directly to steel
- Certified to British Gas GBE/CW6 Part 1
- Certified to EN 10290 by Shell Global Solutions
- Excellent corrosion resistance
- Fast curing, dry to handle in 3 minutes when applied to preheated substrate
- Good abrasion and impact resistance
- Excellent adhesion
- Good water resistance
- Glossy and smooth appearance
- Colour: blue, grey and red-brown - gloss



Range to cope



SigmaLine 523

Two component solvent free polyamine cured epoxy coating

With resistance against bacterial attack, SigmaLine 523 is approved for potable water by KIWA Holland ref. K12827/01. It is also suitable for carrying a wide variety of chemicals. SigmaLine 523 is fast curing especially when applied to preheated substrates.

- Solvent free coating for the internal lining of pipelines carrying potable water
- One coat system directly to steel
- Approved and complying with latest regulations for contact with potable water like KIWA
- Excellent corrosion resistance providing total reliability and high potable water quality
- Resistant against bacterial attack
- Good chemical resistance against petroleum products and various chemicals
- Fast curing especially when applied to preheated substrates
- Can be applied to rotating pipes at a dry film thickness (dft) up to 600 µm
- Glossy and smooth appearance
- Easy to clean
- Colour: red-brown and green - gloss

SigmaLine 445

Two component high build amine cured phenolic epoxy in-situ lining

Corrosion creates a hazardous situation, which might cause leaks and blow-outs resulting in environmental pollution. Replacement of these lines would involve enormous costs. In-situ cleaning and coating process provides a method to apply a coating to existing pipelines in order to stop the corrosion processes and chemical attack. SigmaLine 445 is an in-situ coating that can be used for internal pipeline rehabilitation of these pipelines. SigmaLine 445 provides excellent protection in severe chemical and high temperature service.

- Solvent borne phenolic epoxy coating for internal pipeline rehabilitation
- Excellent corrosion resistance providing total reliability
- Provides excellent protection in severe chemical and high temperature service
- Excellent for use in sweet and sour crude, brine and processed petroleum product lines
- Resistant to produced water containing hydrogen sulphide
- Resistant against bacterial attack
- Smooth appearance
- Easy to clean
- Colour: light green – flat

The Sigma Pipeline Range

Every situation covered



SigmaLine 403

Two component polyamine cured epoxy flow coating

A specialist coating solution that reduces frictional resistance for purified natural gas pipelines. The result, a faster, more efficient gas flow resulting in cost savings due to less pressure loss. SigmaLine 403 provides a high level of anticorrosion protection and meets API specification RP 5L2 third edition. SigmaLine 403 has been used in gas pipelines with excellent results after being in service for over 25 years.

- Solvent borne epoxy flow coating for internal natural gas pipelines
- One coat system directly to steel
- Reduction of friction resulting in economical savings
- Improved reliability and quality of delivered natural gas
- Good chemical resistance against crude oil, natural gas and aliphatic petroleum products
- Glossy and smooth appearance
- Easy to clean
- Can be applied by heavy duty single feed airless spray (60:1) at temperatures from 5 °C and above
- Approved by Shell Global Solutions and AGIP according to EN 10301
- Approved to API specification 5L2
- Colour: red brown – gloss

SigmaGuard CSF 585

Two component solvent free amine cured epoxy coating

SigmaGuard CSF 85 is a lining for drinking water meeting the latest legislation. It is designed to provide the best water quality as its first priority, this long lasting coating delivers excellent coverage and elasticity. It is approved by the Water Quality Centre and meets the criteria of all major quality standards and approval authorities including BS 6920 Part 1 (UK), KIWA (NL), NSF (USA, Germany, Singapore).

- Solvent free coating for the internal lining of pipelines carrying potable water
- One coat system directly to steel
- Approved and complying with regulations of various Water Councils for contact with potable water
- Excellent corrosion resistance, providing total reliability and high potable water quality
- Benzyl alcohol free, virtually eliminating bacterial slime
- Resistant against bacterial attack
- Can be applied by heavy duty single feed airless spray (60:1)
- Glossy and smooth appearance
- Easy to clean
- Colour: blue and white - gloss

SigmaGuard CSF 575

Two component solvent free amine cured modified epoxy coating

Approved for drinking water by the National Institute of Public Health, Norway and other world leading regulators, this highly advanced coating has an impeccable service record. A light coloured finish ensures good visibility for easy inspection in confined spaces. Application is by single feed airless spray or by brush for stripe coating and spot repairs. SigmaGuard CSF 75 is also a Lloyd's register recognised corrosion control coating.

- Solvent free coating for the internal lining of pipelines carrying potable water
- One coat system directly to steel
- Approved and complying with regulations for contact with potable water
- Excellent corrosion resistance (Lloyd's register), providing total reliability and high potable water quality
- Resistant against bacterial attack
- Can be applied by heavy duty single feed airless spray (60:1)
- Glossy and smooth appearance
- Easy to clean
- Colour: cream - gloss

The SigmaLine Range

SigmaLine 2500 (*Sigmaling FDP 67*)

- Fast curing, solvent free phenolic epoxy coating for pipe externals operating at temperatures greater than 60 °C

SigmaLine 2000 (*Sigmarite EPH*)

- Solvent free phenolic epoxy coating for pipe external rehabilitation (bell holing jobs) and operating at temperatures greater than 60 °C

SigmaLine 859 (*Sigmaling Purtar SF59*)

- Fast curing, solvent free tar polyurethane coating for pipe externals for fast drying

SigmaLine 855 (*Sigmaling 7655*)

- Fast curing, solvent free and polyurethane coating for pipe externals for fast drying approved by British Gas CW6

SigmaLine 523 (*Sigmaling SF23*)

- Solvent free epoxy coating for pipe internal for transporting potable water, which is KIWA approved

SigmaLine 445 (*Sigmaguard HTR High Build*)

- Solvent based high build phenolic epoxy in-situ coating for internal pipeline rehabilitation various petrochemicals

SigmaLine 403 (*Sigmaling Flowcoat 03*)

- Solvent based epoxy flow coating for internal natural gas pipelines approved by API RP5 L2

SigmaGuard CSF 575 (*Sigmaguard CSF 75*)

- Solvent free epoxy coating for pipe internal for transporting potable water, which can be applied by single feed airless

SigmaGuard CSF 585 (*Sigmaguard CSF 85*)

- Solvent and benzyl alcohol free epoxy coating for pipe internal for transporting potable water and approved according to latest legislation

SigmaKalon Marine and Protective Coatings

Andrews Coatings Ltd
Carver Building, Littles Lane
Wolverhampton
West Midlands WV1 1JY
Tel: 01902 712286
Fax: 01902 426574
sales@sigmacoatingsdirect.co.uk
www.sigmacoatingsdirect.co.uk

