

# Bituseal® Enamel

## Product Data Sheet

Rev. 29 - Januar 2020



### Product Description

The Bituseal® Enamel is based on a specially selected bitumen, modified with high performance engineering polymers. This polymer modification ensures improvements of a number of the product's qualities, e.g. flexibility, adhesion and durability. Bituseal® Enamel is supplied in different types/grades, depending on the varying requirements for corrosion protection materials for pipelines.

### Delivery

Bituseal® Enamel is available cold in 20 kg blocks or hot in bulk.

### Application

Bituseal® Enamel is applied to steel pipes, previously primed with Bituseal® Primer, at 190-230°C using computer controlled extrusion technology, which ensures an optimum coating quality.

Optimum adhesion and bleed-through is obtained when the pipe surface temperature prior to coating is 30-50°C. However, minimum surface temperature is 15°C and 3°C above the dew point.

Minimum enamel thickness is 4.0mm. For enamel thickness >3.5 mm weld seams should be applied in order to ensure sufficient enamel thickness over the welds.

### Storage

Heated Bituseal® Enamel is to be stored under constant low-speed stirring. Storage temperature and duration depends on the Bituseal® grade stored. Further details on this appear in the technical data table on the reverse page.

### Standards

The Bituseal® Enamel meets or exceeds all the performance requirements of EN 10300 and meets the requirements for modified bitumen enamel in the Shell Specification DEP 31-30-40-33-Gen.

### Quality Control

All raw materials for Bituseal® Enamel are tested and approved in the laboratories of PHOENIX INTERNATIONAL A/S.

The quality of the finished enamel is controlled to either EN 10300, DEP 31-30-40-33-GEN, or the the costumer's specific requirements and a quality certificate is issued for each batch produced.

### Bituseal® Coatings

Bituseal® Enamel is suitable for pipelines operating at temperatures in the range -30°C to 65°C. The enamel is environmentally safe.

### Mechanical Protection

A polypropylene shield can be applied to the Bituseal® coated pipe in order to obtain improved mechanical protection of onshore pipelines.

Please also see the Product Data Sheet for Bituseal® PP Topcoat for Bituseal® coated pipelines.

 corrosion protection that stays.

### Technical Data

Test	Method	Unit	Type A Flexible grade	Type B Hard grade	Type C High temp. grade
Softening point	EN 1427, 1999	(°C)	115-130	125-150	135-160
Penetration	EN 1426, 1999	dmm at 25°C	15-30	5-15	5-15
Filler content	EN 10300, 2005	% w/w	20-30	25-35	25-35
Density	EN 10300, 2005	g/cm <sup>3</sup>	1.1-1.3	1.2-1.4	1.2-1.4
Flash point	EN ISO 2592	°C	min. 250	min. 260	min. 260
Bend	EN 10300, 2005	min.mm at -10°C	-	20	20
Bend	EN 10300, 2005	min.mm at -20°C	20		
Application temp.	-	°C	185-195	215-225	220-235
Durability at application temp.	-	-	max. 24 hours	min. 5 days	min. 5 days
Sag	EN 10300, 2005	max.mm at 80°C	1.5	-	-
Sag	EN 10300, 2005	max.mm at 100°C	-	1.5	-
Sag	EN 10300, 2005	max.mm at 150°C	-	-	1.5
Impact	EN 10300, 2005	max.mm <sup>2</sup> at -10°C	6.500	6.500	6.500
Peel, initial and delayed	Shell DEP 31.40.30.33	min. N/mm 30°C	4.0	4.0	4.0
		min. N/mm 40°C	2.5	2.5	2.5
		min. N/mm 50°C	1.5	1.5	1.5
		min. N/mm 60°C	1.0	1.0	1.0
Cathodic disbonding	EN 10300:2005	max.mm	5.0	5.0	5.0
Typical storage temperature	-	°C	160-170	190-200	190-210
Durability at storage temp.			max. 1 weeks	min. 2 weeks	min. 2 weeks
Product Code	100-120				