

Acothane WasteSeal

(Formally Corroless ACO Wasteseal)

Product Description	A solvent free, fast curing, two pack hybrid polyurethane , reinforced with Carbon Fibre, for pipelines.			
Features & Use	<ul style="list-style-type: none"> Designed for the in-situ lining of iron, steel, concrete and plastic waste water pipes, to reinforce and repair using proprietary, patent-pending, 'Pipe in Pipe' technology Outstanding physical properties in terms of flexural strength, tensile strength, impact, abrasion and penetration resistance Acothane Wasteseal is based on the resin technology of Acothane, which has been in use with the water industries for the protection of steel and pipes immersed in seawater, raw, waste and clean water for over 30 years, with no reports of service failures 			
Approvals/ Certification	Please consult Acothane UK Limited			
Finish	Sheen			
Volume Solids	100%			
VOC Content	0 g/litre			
Film Thickness Range And Coverage		Dry Film Thickness	Wet Film Thickness	Theoretical Coverage
	Typical per coat *	3.0 mm	3.0 mm	0.33 m ² /litre
<p>* We suggest that where practical, a minimum of 6 mm coating thickness (2 x 3 mm) is used.</p> <p>Practical coverage depends on the application method, painting conditions and the shape and roughness of the surface to be coated</p>				
Drying Times	Applied to 3.0 mm DFT	+10°C	+20°C	
	Dust Free	10-15 min	5-10 min	
	Hard Dry	1 hr	< 1 hr	
	Overcoating	1 hr	1 hr	
	Full Cure	24 hr	24 hr	
	Return to Service	1 hr	1 hr	
Drying and recoating times are related to the surface temperature				
Colours	Dark Grey/Black			
Pot Life	90 - 120 seconds at 20°C			
SG	1.6 kg/lit mixed			
Storage Conditions	Store in dry, cool conditions and protect from frost			
Shelf Life	24 months if stored as above in unopened containers			
Flash Point	200°C			

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Surface Preparation	<ul style="list-style-type: none"> This is a specialist product which should only be used by an Approved applicator – please consult Acothane UK Limited for details Pipes to be re-lined should be clean, with all sediment and build up removed using an appropriate cleaning method The pipe should then be dried using a suitable site method to ensure that there is no pooling water and that the pipe surface is as dry as possible before lining Consult Acothane UK Limited for specific project advice
Mixing	Requires a suitable Lining Rig specially designed for this product
Thinner / Cleaner	Do not thin / Cleaner – refer to Acothane UK Limited for advice
Application Conditions	Normal application requires relative humidity below 80%. To avoid risk of condensation, application should be performed only when the steel surface temperature is at least 3°C (5°F) above the dew point. Application at temperatures below 1°C (33°F) must be carefully monitored, since the possible presence of ice on the surface (or in pores, in the case of concrete) will result in poor performance.
Application Methods	<ul style="list-style-type: none"> Requires a suitable Lining Rig specially designed for this product
Product Notes	<ul style="list-style-type: none"> Activator contains isocyanates – refer to Safety Data Sheet
Health & Safety	Containers are provided with safety labels which should be observed. Further information about hazardous influences and protection are detailed in individual Product Safety Data Sheets. A Safety Data Sheet for this product is available on request from Acothane UK Limited.

Property	Test Standard	Wasteseal
Shore D Hardness	ASTM D2240-5	89-90
Bisphenol A		None
Tensile Strength	ASTM D638-08	34 MPa
Tensile Elongation	ASTM D638-08	1.30%
VOC		0%
Flexural Strength	4mm ISO178/11296-4	89 MPa
Flexural Modulus	4mm ISO178/11296-4	5.3 GPa
Slurry Erosion	Southampton University*	243 mg loss
Water Absorption (21 days)	ASTM D570-98	0.53%
Adhesion to Steel (Sa2½ surface)	ASTM D4541	>18 MPa

* Test developed by Southampton University to compare erosion rates under high wear conditions

This information is given in good faith for the guidance of users but without warranty or liability. Any queries should be referred to our Technical Department. The above information, based on laboratory tests and practical experience has been proved valid at the date marked on the product data sheet. When necessary verify the validity of the product data sheet. The quality of the product is ensured by our operational system, based on the requirements of the standards ISO 9001. As a manufacturer we cannot be responsible for any damages caused by using the product against our instructions or for inappropriate purposes. This product is for professional use only.

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Physical Strength Test Data

CIPP (Cured In Place Pipe) Lining technologies are recognised as having an average life expectancy of at least 50 years. Acothane Wasteseal was designed as a sprayable solution to be at least equal to typical CIPP linings.

The below Table of test data shows that Acothane Wasteseal **exceeds the industry standard** resin types for CIPP technologies.

Test Property	Epoxy Resin Data	Epoxy Vinyl Ester Data	Isophthalic Polyester Data	Filled Isophthalic Polyester Data	Acothane Wasteseal Data (psi)	Acothane Wasteseal Data
Flexural Modulus (psi)	250,000 to 300,000	350,000 to 450,000	250,000 to 300,000	400,000	768,701	5.3 GPa
Flexural Strength (psi)	5,500	5,500	5,500	5,500	12,908	89 MPa
Tensile Strength (psi)	3,000 to 5,000	3,000 to 5,000	3,000 to 5,000	3,000 to 5,000	4,931	34 MPa

When steel tank and pipe walls corrode, they become thinner and weaker. Warwick University was commissioned to carry out strength testing on Acothane Wasteseal, comparing different steel thicknesses (to simulate tank/pipe walls where corrosion and erosion had thinned the steel) and measure the effect of reinforcing the steel with different thicknesses of Acothane Wasteseal.

The Table below is an interpretation of the Yield Load results obtained, comparing the uncoated steel with 2 applied thicknesses of Acothane Wasteseal. The Table shows the increase in Yield Load obtained with its approximate equivalence to an increase in steel thickness.

Steel Thickness	Increase in Strength using Acothane Wasteseal		Approx. Steel Thickness Equivalent
	5 mm	10 mm	
1 mm	300%	-	3 mm
1 mm	-	600%	4 mm
3 mm	160%	-	> 3 mm
3 mm	-	330%	> 4 mm
5 mm	12%	-	> 5 mm
5 mm	-	44%	8 mm