

Balearic Gas Pipeline

PROJECT HISTORY

The Balearic Gas Pipeline project was approved by the Spanish government in 2003. The pipeline connects the Spanish mainland gas pipeline network to the Balearic Islands and satisfies their gas demand for power generation. The Balearic gas pipeline is a 267 km subsea export line with two sections, from Denia to Ibiza and then from Ibiza to Mallorca. The pipeline goes through water depths varying from 0 to 997 meters.



Protective & Weight Coatings

PROJECT DETAILS

OWNER/OPERATOR	Enagas S.A
CONTRACTOR	Saipem
DESIGN/ENGINEERING	JP Kenny Engineering (UK)
COUNTRY	Spain
PIPELINE LENGTH	267 km
PIPE DIAMETER	20"
WATER DEPTH	0-997 m

PROJECT SCOPE

The 508 mm (20") diameter gas pipeline was designed to have a protective and weight concrete coating with a thickness between 35 mm (1.4") and 120 mm (4.7"). Bredero Shaw was awarded the concrete coating of all the 22,452 pipe joints, as well as the installation of sacrificial anodes and the concrete coating of buckle arrestors.

COATING SOLUTION

COATING SOLUTION	Compression Coat
COATED JOINTS	22,452
COATING THICKNESS	35-120 mm (1.4 -4.7")
COATING DENSITY	2240 kg/m ³ & 3045 kg/m ³
BUCKLE ARRESTORS	173 arrestors coated
COATING COMPLETED	May 2008

MOBILIZATION & COATING

The Bredero Shaw's solution for the protective and weight coating needs of the Balearic Gas Pipeline project was Compression Coat. A mobile coating plant arrived from Houston, Texas, to the Spanish port of Alicante in September 2007 and was set up and prepared for production on a previously prepared site in Alicante. The coating and anode installation started in late October 2007 for six days a week and were finalized in May 2008. This was the first time that a Bredero Shaw mobile plant coated buckle arrestors with concrete. 173 integral ring buckle arrestors were coated with 60 mm (2.4") of concrete. The coating plant was demobilized and shipped to Houston in June 2008.

LOCATION



LOCAL CONTENT

50-80 local employees and subcontractors were all trained according to the Bredero Shaw health, safety and environmental standards to maximize the local content of the project. Some of the coating materials such as the cement and light aggregates, as well as the cranes, trucks, front end loaders used in the project were also sourced locally.





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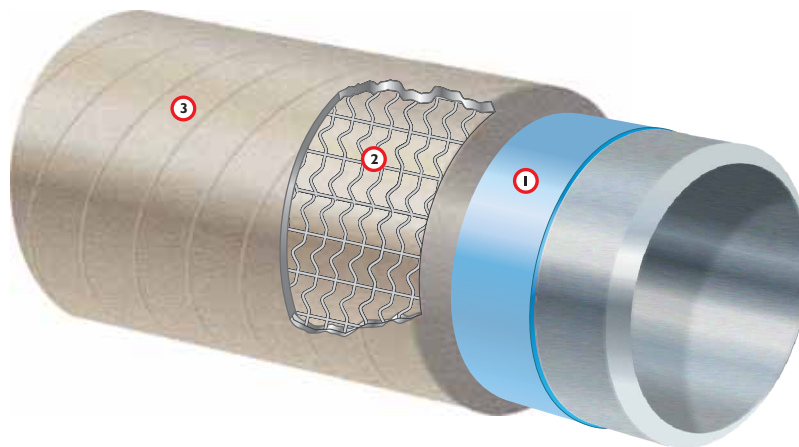
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COMPRESSION COAT



① Anti-Corrosion Coating ② Reinforced Concrete ③ Outer Wrap

PRODUCT DESCRIPTION

Compression Coat is the pipeline industry's leading coating system for projects requiring rapid mobilization or coating near the right-of-way. This concrete coating system is designed to provide negative buoyancy and mechanical protection for pipelines in submarine and wet environments. Compression Coat uses a side-wrap application process making it ideal for both small and large diameter pipelines. The product is available in various thicknesses and densities and can be applied over anti-corrosion and insulation coatings.

Compression Coat can be applied in a wide range of densities and thicknesses to meet project requirements. This feature can improve installation and optimize negative buoyancy and mechanical protection while minimizing cost. The product is available in thicknesses up to 150 mm (6") providing a high level of mechanical protection and stability. The Compression Coat system offers a consistent and uniform thickness and minimum weight variance from specifications.

Bredero Shaw has unique portable Compression Coat facilities that can be mobilized in a short period of time to meet specific project requirements. This can significantly reduce pipe transportation and handling costs.

SELECT COMPRESSION COAT PROJECTS

PROJECT	CUSTOMER	LOCATION	LENGTH (km)	DATE
Hasdrubal Gas Pipeline	BG Tunisia Limited	Tunisia	108	2008
Pol A	Oceanografia	Mexico	56	2006
West Africa Gas Pipeline	WAP Co.	Ghana	598	2005
Lobina & Carpa	Global Offshore Mexico	Mexico	280	2005
BUD	National Gas Co. of Trinidad & Tabago	Trinidad & Tabago	64	2004
Mardi Gras	British Petroleum	USA	147	2003
Nakika	Shell Oil Co	USA	63	2002
Gulfstream	Gulfstream Co. / Williams	USA	687	2001
Sable Offshore	Shell / ExxonMobil	Canada	380	1998

BREDERO SHAW: THE GLOBAL LEADER IN PIPE COATING SOLUTIONS

Bredero Shaw is the world leader in pipe coating solutions, with more than 75 years of experience, over 27 pipe coating facilities on 6 continents and the largest team of technical and service specialists in the business. Bredero Shaw offers technologically advanced solutions for anti-corrosion coatings, protective and weight coatings, thermal flow assurance coatings, internal coatings, custom coatings and field joints for both onshore and offshore applications. This broad range of products and services provides Bredero Shaw with the unique capability to service the full spectrum of pipeline protection and flow assurance requirements. Consult your Bredero Shaw representative for your unique project requirements.

The information contained herein is indicative of the types of coatings provided by Bredero Shaw, and is not intended to be a guarantee that a particular coating will be suitable for a given application. Since many unique environmental, operating, and design conditions must be considered, the user shall determine the suitability of the coating for the intended use and assume all the risks and liabilities in connection therewith. Bredero Shaw's liability is stated in our standard conditions of sale.