

AQUASORB™

Superabsorbant

AQUASORB BLOCK 24

Inerting of pipes

Inerting of pipes entails filling part or a network of abandoned pipes with absorbent products.

This technique is used within the scope of renewing old low pressure pipes (cast iron, Eternit, PVC, cement, etc) with medium pressure polypropylene pipes. One of the consequences is the need to decommission the old network. Different technical solutions are possible:

- taking the pipe down
- abandoning of the pipe as it is
- abandoning the pipe after filling (with AQUASORB BLOCK 24)
- use of pipe for another function
- abandoning on a temporary basis for subsequent use as a casing.

Products and Equipment

AQUASORB BLOCK 24: acrylamide-based superabsorbent copolymer in the form of granules (50% of its absorption capacity reached in 1 hour, 100% in 4 hours).

FLOBOND A30: acrylic acid and acrylamide copolymer in powder form.

FLOQUIP: equipment made of 2 tanks with agitators + 1 Seepex pump of 5m³/h.

Implementation

The injection is performed in batches of 1,000 l on a continuous basis using FLOQUIP equipment. The AQUASORB BLOCK 24 is suspended in water using an agitation system the same time as the container is filled. The operation takes approximately 20 min to fill and the same time to inject. The injection pressure does not exceed 2 bars and the injection distance can go up to 1 km.

SNF FLOERGER



Advantages of the Technique

- Cost of operation 4 to 10 times less than standard techniques (concrete, sand, bentonites, synthetic foams)
- Easy implementation with 1 injection point per section going up to 1 km
- Possibility of subsequently using the pipe as a casing
- Products boasting full environmental guarantees



« the injection distance can go up to 1 km »

Benchmark Sites

- 1993 - Saint Etienne - Ø 500 - L 200 m
- 1993 - Saint Etienne - Ø 500 - L 810 m + Connection Ø 200 - L 190 m
- 1996 - Aubervilliers - Ø 400 - L 110 m
- 1996 - Dugny - Ø 400 - L 280 m
- 1996 - Vienne
- 2001 - Toulon - Ø 400 - L 2252 m
- 2011 - Bruxelles - Ø 150 - L 1000 m + multi-networks

Since 2003, SNF has supplied AQUASORB to several service-providers in order to render independent gas tanks inert.

Regulations

- decree of 26 February 1974 (part 5 - article 39)
- circular of 14 June 1994 relating to classified installations for the protection of the environment (heading 9, paragraph 2)
- and the decree of 22 June 1998 (text published in the journal officiel (official journal) of 18/07/98, appendix 614-98/15 of 25 August 1998). This relates to underground storage tanks that have contained hydrocarbons.

Regulations

Extract of article 18 of the decree of 22 June 1998, extract relating to underground storage tanks for flammable liquids

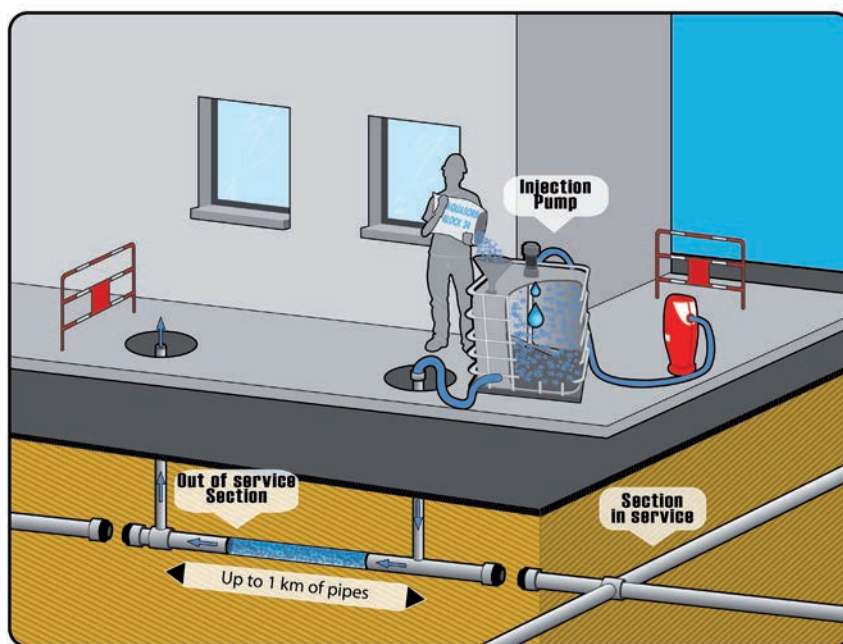
- *On discontinuance of operations, tanks should be degassed and cleaned before being removed or, failing which, neutralised by an inert solid.*
 - *The product used for neutralisation should cover the whole surface area of the internal wall of the tank and ultimately be able to withstand surface subsidence.*
- Article 22 of the decree of 13 July 2000

STORAGE AND PACKAGING	
Storage temperature (°C)	0 - 35
Shelf life (years) **	5
Multiwall polythene Bags	25 kg
Big-bags	500 - 750 kg
Other dimensions	On request
** When stored inside a building at a stable temperature between 5° and 30°C.	

PRODUCT CHARACTERISTICS	
Appearance	white granule
Particle size	2 - 4 mm
Ionic character	Anionic
Active ingredient	90 %
Moisture content	10 %
Approximate bulk density (g/cm ³)	0.8
Usable pH range	5 - 9
Solubility	Insoluble in water

TYPICAL CHARACTERISTICS	
Maximal absorption (in weight of retained water / weight of dry product)	
In Deionised water	300
In Water with 1,000 ppm of NaCl	100

RATES OF APPLICATION *	
Mixed into water tank	10-15 kg /m ³
* Rates vary accordingly to the water conditions, and pipe coating.	



Example of inerting on a length of pipe of 1600 m without or with AQUASORB

