

Rilsan® Coating: Ideal Coating for Treatment Unit Piping System

Summary

Rilsan® Fine Powders is a unique synthetic thermoplastic Polyamide 11 powder product range.

Rilsan® Fine Powders can be applied through various processes onto various metal substrates to protect them against chemical and mechanical aggression.

For treatment of water, waste water and sea water, Rilsan® coated mild steel piping system has been found as a viable alternative to the more expensive 304 and/or 316L stainless steel piping system.

Benefits

Water quality: Rilsan® coating does not release any hazardous compound. Rilsan® has been evaluated and found comply to various regulatory requirements, for example, WRAS and DWI in UK, DVGW-KTW and DVGW-W270 in Germany, ACS according to Circular DGS/VS4/N°99.217 in France, KIWA-ATA in Holland, JWVA WSP 067-2001 in Japan, NSF61 in US and AS4020 in Australia.

Coating application: Minimum coating quality assurance steps are required. It is easy to achieve coating of homogeneous thickness and smooth surface, even for large dimension fittings of complex designs due to the thermoplastic nature of Rilsan®.

Handling of coated pieces: Rilsan® coating is flexible and resistant to potential hazards of impact and weathering during storage, handling, transportation and installation of the coated piping system.

Energy saving: Rilsan® coating has a very smooth and low friction surface. This is instrumental in keeping the pressure loss low and thus optimizes the energy consumption of the piping system.

Durability: Rilsan® has excellent resistance to wear and abrasion as well as to corrosion. Such properties are essential in maintaining the original designed quality of the piping system.

One can refer to EN10310 in Europe, WSP 067-2001 in Japan, KIWA K-759 in Holland, AS/NZS 4158 in Australia and C-224-01 in USA as standard to govern high performance coating. Rilsan® coating has been evaluated and found complying all these standards mentioned.

References

Water utility has the objective to produce good quality water for delivery to the final users without interruption. Meantime, they have to produce them at competitive cost. They are obliged to optimize their capital of investment (CAPEX) and capital of operation (OPEX).

30 years usage reference: In 1967, Rilsan® coated mild steel piping system was first used in a potable water production plant at Looksbroek operated by Waterleidingmaatschappij Oost-Brabant N.V. in Holland. Kersten B.V. at Brummen, Holland was the Rilsan® coating applicator then. 30 years after the construction of this plant by USF Rossmark Waterbehandeling B.V. in 1997, Waterleidingmaatschappij Oost-Brabant N.V. has to expand the capacity of this plant, and, not by chance, they used again Rilsan® coated mild steel piping system.

Alternative of stainless steel 316L

The price of stainless steel types 316 has increased by 65% between September

2002 and August 2004. Besides, stainless steel is prone to pitting corrosion. The resistances of stainless steel to seawater, to different soils conditions, to sodium hyposulfite, to hydrochloric acid and to sodium hydroxide are limited.

In order to improve the coat and performance of their piping systems, some innovative companies, especially those involved in membrane filtration technology, have been looking for alternative of stainless steel.

Keeping their objective of delivering good quality water at competitive cost in mind, these companies have evaluated Rilsan® coating to various conditions. After several years of study, they are convinced of the performance of Rilsan® and has decided to use Rilsan® coated piping system. An example is the use of Rilsan® coated piping system in the new water filtration project with a capacity of 275 000 m³/day in Moscow, Russia.

KSB S.A.S.—Direction Service France had a project to supply pumping system that includes pump and the adjacent piping system to Kufra, Libya. The pumping system is in contact with corrosive brackish water. KSB, after years of experience and knowledge with Rilsan®, has proposed the use of Rilsan® coating in the pumping system without much hesitation. In Japan, since the 1980an, the Japanese water utility has adopted Rilsan®. The very visible applications are the water storage tank panel and the pipes along bridge to transport water from mainland to the nearby islands.

Conclusion

The water industry is convinced of the performance of Rilsan® and continue to use Rilsan® coated piping system. For innovative engineers and designers working in the water industry, Rilsan® coated piping system is a logical choice to optimize CAPEX and OPEX.

