

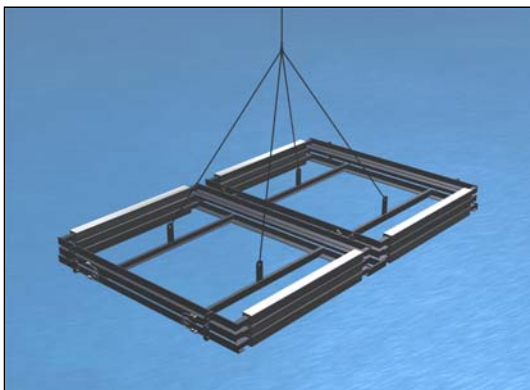
DEEPWATER

RetroSled™

Cathodic Protection Life Extension for Pipelines

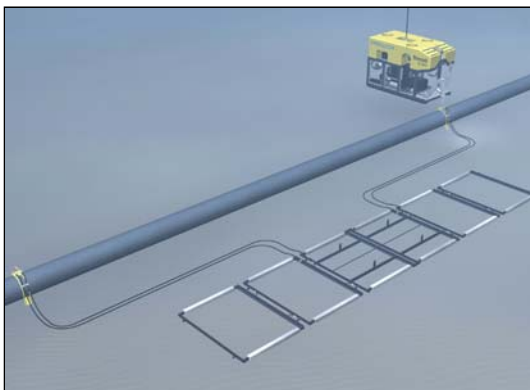


RetroSled is installed by diver or ROV



ExpandaSled ships and deploys 12' x 8'

Installed dimensions: 36' x 8' on bottom



Product Overview

RetroSled & ExpandaSled™ (expanding RetroSled) are optimized pipeline retrofit sled arrays designed for pipelines where anode burial below the natural seabed is required or anticipated.

Both sleds are available in standard configuration for 15 or 30 year design life. Sleds are also equipped with single or dual RetroClamps™ to facilitate rapid and reliable tie back to the pipeline or riser.

Use RetroSled when extending life on a pipeline with good coating and still protected readings (above (-) 0.900 V vs. Ag/AgCl sw.)

RetroSled is a rigid sled design 20' x 8'.

Use ExpandaSled when an extra current boost is required for a depolarized pipeline or one with degraded coating.

ExpandaSled is an expanding design that provides a 40' x 8' anode on bottom.

Both sleds are pre-programmed into Deepwater's PipeMod™ attenuation modeling system used to optimize spacing between sleds.

Applications

- Offshore pipelines
- NOTE: In situations where seabed movement is anticipated, Deepwater does not recommend the rigid RetroSled. See the CP Mat™ for these applications.

Main Benefits

- Rapid and safe offshore deployment
- Proven design; hundreds of miles of lines successfully retrofitted
- Highest quality materials and anodes from our affiliated foundries.



The RetroClamp tie-back in situ. No failures have ever been reported.

Materials

RetroSled uses the highest available quality of sacrificial anode alloys. Typical ambient and cold water Al-In-Zn compositions are used. See product CD for details. All steel fabrication uses ASTM A 36 material and is performed in our own manufacturing facility as well as at sub-licensed facilities in various regions. Sub-licensees list available upon request

RetroSled System Design Life

10 – 30 years (depending on customer requirements)

RetroClamp™ Tie Back

Each RetroSled is shipped with two RetroClamps; typical cables are 2 x 25 feet #4/0 AWG heavy duty flex cables. Thousands of these clamps are now in service around the world, and many have been installed by ROV. The installation efficiency of the RetroClamp has saved our customers hundreds of thousands of dollars. For more information about the RetroClamp:

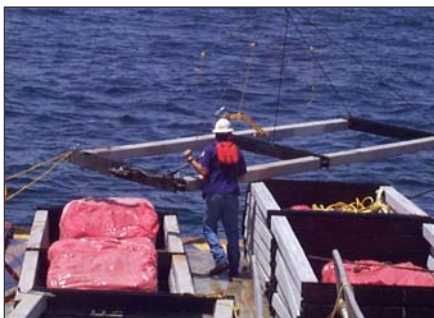
www.stoprust.com or email sales@stoprust.com



An ROV installation of an ExpandaSled™ and RetroClamp. Pipelines only have to be partially excavated (120°).



ExpandaSled opened up on bottom by vessel DP controls



RetroSled deployed from the boat



A RetroSled ready to ship



ExpandaSled deployed by crane

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 Specifications subject to change without notice

RETROSLED