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# HDPE-Lined Reducing Spool




Polygaurd HDPE-lined spools are manufactured using a high-performance polyurethane material developed with German technology and produced in accordance with Australian standards. This premium solution incorporates proprietary technology to deliver exceptional performance in highly aggressive and demanding operating environments.

These spools are commonly used in slurry transfer applications, including mineral processing plants, oil sands pipelines, concentrate pipelines, tailings pipelines, and dredging operations. The internal polyurethane lining provides superior protection against corrosion, wear, and scaling when transporting fluids containing abrasive solids under high-pressure conditions.

The specially formulated polymer offers outstanding durability in severe slurry service applications. It is suitable for both turbulent and non-turbulent flow conditions and effectively resists wear caused by small abrasive particles (erosion) as well as large particles that create cutting and gouging effects. The lining performs reliably across a wide range of slurry velocities, including high-velocity applications exceeding 10 m/s.

Additional benefits include operation across a broad temperature range, excellent resistance to hydrolysis, compatibility with a wide variety of process fluids, and complete liner integrity through a chemically bonded lining system. The material also features a very low friction-loss coefficient, eliminates the need for corrosion allowances, and is immune to the effects of dissolved oxygen in the carrier fluid.

## Technical Specifications

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| **Pipe size** | DN50–DN1700<br>Non-standard sizes also available. |
| **Pipe** Length | 0.15m to 18m long. |
| **Design codes** | Standard: ASME B31.3, ASME B31.4, AS4041<br>Other requirements also available upon request |
| **Pipe types** | SMLS, ERW, LSAW, DSAW, SSAW/HSAW |
| **Pipe specifications** | Standard: API 5L, ASTM A53/A106, API 5CT<br>Other standrads also available upon request |
| **Pressure rating** | As per design code |
| **Temperature rating** | Based on internal lining system selected |
| **End connections** | Plain end, Fixed Flanged, Swivel flange, Rolled or Cut Grooved, Threaded, Fully welded and Custom |
| **Flange types** | AS2129, ASME B16.5, ASME B16.47, AWWA C207, AS4087, BS EN 1092, BS3293, JIS B2220, SANS 1123, DIN ISO 7005 |
| Groove types | AWWA C606 OGS, Victaulic AGS |
| Special Thread types | BSP, NPT, AP |

## Material Specifications

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| **Pipe material** | All grades of Carbon steel, Stainless steel SS304, SS316 |
| **External coating** | Uncoated, HDG and painted as per project requirement. |

## Internal Lining Specifications

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| Polygaurd **high-performance** HDPE | High-performance HDPE liner system<br>Suitable for turbulent and non-turbulent slurry regimes<br>Suitable for small and large particle slurry types<br>Mecanically bonded to steel shell<br>Suitable for long-term immersion (hydrolysis-resistant)<br>Compatible with most carrier fuids and reagents.<br>Very low wet friction coefficient (smooth surface)<br>Resistant to dissolved $O_2$<br>Temperature range (wet): +0 to +70°C<br>Temperature range (dry): -10 to +80°C |