AG-Series

High-Performance Polyurethane-Lined Pipe Custom Spool

Abrasiguard AG-Series is a high-performance polyurethane-lined custom pipe spool. Designed and manufactured in Australia, this premium product uses proprietary technology to achieve outstanding performance in aggressive applications.

Typically used for slurry transfer including mineral processing plants, concentrate pipelines, tailings pipelines, oil sands pipelines, and dredging. Also used for transfer of fluids where corrosion liner required (typically difficult applications where high-pressure, scaling, or contains abrasive solids).

Special polymer chemistry delivers ultra-high performance in the most aggressive high-wear slurry applications. Suitable for turbulent and non-turbulent (sliding bed) slurry regimes. Suitable for small particle (erosive) and large particle (cutting/gouging) wear mechanisms. Can handle very high slurry velocities (to 10m/s and higher).

Offers wide temperature range, very high hydrolysis resistance, chemical compatibility with most fluids, full liner integrity (chemically bonded), very low friction loss coefficient, and requires no corrosion allowance (as not affected by dissolved oxygen in the carrier fluid).

Technical Specifications

Pipe size	DN50–1350 (2–54") as standard Non-standard sizes available (where required to optimise hydraulic performance)
Design codes	Standard: ASME B31.3, ASME B31.4, AS4041 Contact us for other requirements
Pipe types	SMLS, ERW, LSAW, DSAW, SSAW/HSAW
Pipe specifications	Standard: API 5L, ASTM A53/A106, API 5CT Contact us for other requirements
Pressure rating	As per design code
Temperature rating	Based on internal lining system selected
End connections	Plain end Flanged (fixed or swivel) Grooved (roll or cut) Threaded Fully welded Custom
Flange types	AS2129, ASME B16.5, ASME B16.47, AWWA C207, AS4087, BS EN 1092, BS 3293, JIS B2220, SANS 1123, DIN ISO 7005, custom
Groove types	AWWA C606 OGS, Victaulic AGS, custom or special
Thread types	BSP, NPT, API, premium, custom
Extra options	Custom nozzles, branches, or connections Wear monitoring system (plug-only or push-button)

Material Specifications

Pipe material	Carbon steel (all grades) Stainless steel (SS304, SS316) Exotic alloy
External coating	Uncoated Zinc or zinc-aluminium primer Epoxy based (single or multi-layer) Polyurethane based (single or multi-layer) Custom system

Internal Lining Specifications

AX-100 high-performance polyurethane	High-performance polyurethane liner system Suitable for turbulent and non-turbulent slurry regimes Suitable for small and large particle slurry types Suitable for slurry velocities to 10m/s as standard Suitable for straights (low 0–10° imp. angle wear) Suitable for bends/fittings (medium 10–45° imp. angle wear) Strong adhesion to substrate (chemically bonded) Suitable for long-term immersion (hydrolysis-resistant) Compatible with most carrier fluids and reagents (consult factory for chemical compatibility with specific media) Very low wet friction coefficient (very low surface roughness) Resistant to dissolved O_2 (nil corrosion allowance required) Temperature range (wet): +20 to +40°C (transient to +60°C) Temperature range (dry): 0 to +60°C (transient to +80°C)
AX-100XT high-performance polyurethane (XT upgrade)	Same as AX-100, with additional upgrades Upgrade: Enhanced temperature range Upgrade: Enhanced adhesion (corrosive and/or high temperature) Upgrade: Enhanced resistance to "cold wall" effect Upgrade: Enhanced resistance to long-term immersion Temperature range (wet): 0 to +65°C (transient to +85°C) Temperature range (dry): -60 to +80°C (transient to +120°C)

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Standard Dimensions

Pipe Size (ASME B36.10, Std Wt)					Internal Liner Thickness			Finished Lined ID (ASME B36.10, Std Wt)		
DN	NPS (in)	OD (mm)	Wall (mm)	Unlined ID (mm)	Min liner (mm)	Std liner (mm)	Max liner (mm)	Min liner (mm)	Std liner (mm)	Max liner (mm)
50	2	60.3	3.91	52.5	4	6	12	44.5	40.5	28.5
80	3	88.9	5.49	77.9	4	6	20	69.9	65.9	37.9
100	4	114.3	6.02	102.3	5	6	25	92.3	90.3	52.3
125	5	141.3	6.55	128.2	5	6	31	118.2	116.2	66.2
150	6	168.3	7.11	154.1	5	6	37	144.1	142.1	80.1
200	8	219.1	8.18	202.7	5	6	50	192.7	190.7	102.7
250	10	273	9.27	254.5	5	6	62	244.5	242.5	130.5
300	12	323.8	9.53	304.7	5	6	75	294.7	292.7	154.7
350	14	355.6	9.53	336.5	5	9	87	326.5	318.5	162.5
400	16	406.4	9.53	387.3	6	9	100	375.3	369.3	187.3
450	18	457	9.53	438	6	9	112	426	420	214
500	20	508	9.53	489	6	9	125	477	471	239
550	22	559	9.53	540	6	9	137	528	522	266
600	24	610	9.53	591	7	9	150	577	573	291
650	26	660	9.53	641	7	12	162	627	617	317
700	28	711	9.53	692	7	12	159	678	668	374
750	30	762	9.53	743	8	12	141	727	719	461
800	32	813	9.53	794	8	12	127	778	770	540
850	34	864	9.53	845	8	12	116	829	821	613
900	36	914	9.53	895	8	12	107	879	871	681
950	38	965	9.53	946	8	12	100	930	922	746
1000	40	1016	9.53	997	8	12	94	981	973	809
1050	42	1067	9.53	1048	8	15	88	1032	1018	872
1100	44	1118	9.53	1099	8	15	83	1083	1069	933
1150	46	1168	9.53	1149	8	15	79	1133	1119	991
1200	48	1219	9.53	1200	8	15	75	1184	1170	1050
1250	50	1270	9.53	1251	8	15	71	1235	1221	1109
1300	52	1321	9.53	1302	8	15	68	1286	1272	1166
1350	54	1372	9.53	1353	8	15	65	1337	1323	1223

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End Profile Designs

Plain end (DN50–1350)	X01 plain end, flush lining X02 plain end, pipe end lining X03 plain end, pipe end & lap-back lining
Flanged AS2129 (DN50–900)	X10 AS2129 Table D fixed, flange face lining X11 AS2129 Table E fixed, flange face lining X12 AS2129 Table F fixed, flange face lining X13 AS2129 Table H fixed, flange face lining X15 AS2129 Table D swivel, flange face lining X16 AS2129 Table E swivel, flange face lining X17 AS2129 Table F swivel, flange face lining X18 AS2129 Table H swivel, flange face lining
Flanged ASME B16.5 (DN50–600)	X20 ASME B16.5 Class 150 fixed, flange face lining X21 ASME B16.5 Class 300 fixed, flange face lining X22 ASME B16.5 Class 600 fixed, flange face lining X23 ASME B16.5 Class 900 fixed, flange face lining X24 ASME B16.5 Class 1500 fixed, flange face lining X25 ASME B16.5 Class 150 swivel, flange face lining X26 ASME B16.5 Class 300 swivel with flange face lining X27 ASME B16.5 Class 600 swivel with flange face lining
Flanged ASME B16.47 Sr A (DN650–1200)	X30 ASME B16.47 Sr A Class 150 fixed, flange face lining X31 ASME B16.47 Sr A Class 300 fixed, flange face lining X32 ASME B16.47 Sr A Class 600 fixed, flange face lining X33 ASME B16.47 Sr A Class 900 fixed, flange face lining X35 ASME B16.47 Sr A Class 150 swivel, flange face lining X36 ASME B16.47 Sr A Class 300 swivel, flange face lining X37 ASME B16.47 Sr A Class 600 swivel, flange face lining
Flanged ASME B16.47 Sr B (DN650–1350)	X40 ASME B16.47 Sr B Class 150 fixed, flange face lining X41 ASME B16.47 Sr B Class 300 fixed, flange face lining X42 ASME B16.47 Sr B Class 600 fixed, flange face lining X43 ASME B16.47 Sr B Class 900 fixed, flange face lining X45 ASME B16.47 Sr B Class 150 swivel, flange face lining X46 ASME B16.47 Sr B Class 300 swivel, flange face lining X47 ASME B16.47 Sr B Class 600 swivel, flange face lining
Grooved OGS AWWA C606 (DN50–600)	X50 Roll Groove OGS AWWA C606, pipe end lining, to suit rigid coupling X51 Roll Groove OGS AWWA C606, pipe end lining, to suit flexible coupling X52 Cut Groove OGS AWWA C606, pipe end lining, to suit rigid coupling X53 Cut Groove OGS AWWA C606, pipe end lining, to suit flexible coupling X54 Cut Groove OGS AWWA C606 with pipe end and lap-back lining, to suit rigid coupling X55 Cut Groove OGS AWWA C606 with pipe end and lap-back lining, to suit flexible coupling
Victaulic AGS roll grooved (DN350–1350)	X60 Roll Groove Victaulic AGS, pipe end lining, to suit rigid coupling X61 Roll Groove Victaulic AGS, pipe end lining, to suit flexible coupling
Other end profiles	End profile designs available for all standard end connections. Custom end profile design available on request
Resources	Detailed drawing available for each end profile design Full piping standard drawings available on request Customised model piping specifications available on request

Notes

1. Product is fully customisable and available in non-standard specifications on request.
2. Pipe length limited in smaller sizes (DN50–80 ≤ 3m, DN100–125 ≤ 6m, and DN150 ≤ 12m).
3. Standard pipe tolerance as per API 5L for DN50–600 up to 12m length (special pipe tolerance requirements for larger pipe sizes and longer lengths).
4. Pipe nozzle length limited to maximum 150mm for AA-Series straight spools >3m long (no limitation for other models or shorter lengths).
5. Internal liner thickness refers to the mean average thickness (with standard tolerance equal to API 5L ovality tolerance). Different minimum thickness applies for end profile designs that protrude into internal bore (e.g. roll groove).