

# PENBERTHY material specifications

Section 2000  
Material Specification 2623  
Issued 07/08  
Replaces 08/07

For: K2 GAGECOCKS

Ref. No.	Description	STANDARD MATERIALS				Optional Materials	
		Carbon Steel to -20°F	STS Construction to -325°F	Sour Gas Service to -20°F	Low-Temp. to -50°F		
11	Body	ASTM A105 (forged) Carbon Steel	ASTM A182 (forged) Gr. F316/F316L STS	ASTM A105 (forged) Carbon Steel per NACE MR0175 &/OR MR0103	ASTM A350 (forged) Carbon Steel Gr. LF2 Cl. 1	ASTM A351 304/304L STS Gr. CF3 ASTM A351 316/316L STS Gr. CF3M ASTM A182 Gr. F304/F304L STS ASTM A182 Gr. F51 Duplex 2205 STS ASTM A494 Hastelloy B <sup>®</sup> Gr. N-12MV ASTM A352 Carbon Steel Gr. LCC ASTM A743 Alloy 20 Gr. CN7M ASTM B564 Monel <sup>®</sup> 400 N04400 ASTM A494 Hastelloy C <sup>®</sup> Gr. CW12MW ASTM A123 Galvanized Steel	
12	Vessel Tailpipe	ASTM A108 Carbon Steel AISI C1018	ASTM A276 316/316L STS	ASTM A108 Carbon Steel AISI C1018 per NACE MR0175 &/OR MR0103	ASTM A350 Carbon Steel Gr. LF2 Cl. 1	ASTM A276 304/304L STS ASTM A276 Duplex 2205 STS ASTM B164 Monel <sup>®</sup> 400 ASTM B473 Alloy 20 (CARP 20 Cb3) <sup>®</sup>	
13	Vessel Coupling Nut	ASTM A108 Carbon Steel AISI C1018	Investment Cast 316 STS		Investment Cast 316 STS	ASTM B335 Hastelloy B <sup>®</sup> ASTM B574 Hastelloy C <sup>®</sup> 276 ASTM A123 Galvanized Steel	
14	Ball Retainer	ASTM A313 316 STS (spring wire)				None	
15	T R I M	Ball	ASTM A493, A262 or A276 316 STS			ASTM B574 Hastelloy C <sup>®</sup> 276 Borosilicate Glass ASTM B473 Alloy 20 (CARP 20 Cb3) <sup>®</sup> ASTM B164 Monel <sup>®</sup> 400 ASTM B335 Hastelloy B <sup>®</sup> CRS 304 STS ASTM A276 Duplex 2205 STS	
16		Seat	ASTM A276 316/316L STS				
17		Stem	ASTM A582 416 STS or ASTM A276 410 STS	ASTM A582 416 STS or ASTM A276 410 STS	ASTM A276 316/316L STS per NACE MR0175 &/OR MR0103	ASTM A582 416 STS or ASTM A276 410 STS	ASTM A276 316/316L STS ASTM A276 304/304L STS ASTM A276 Duplex 2205 STS
18		Stem Packing Retainer	MPIF SS-316N2-33 316 STS (sintered)				ASTM B164 Monel <sup>®</sup> 400 ASTM B473 Alloy 20 (CARP 20 Cb3) <sup>®</sup> ASTM B335 Hastelloy B <sup>®</sup> ASTM B574 Hastelloy C <sup>®</sup> 276
19	Stem Packing Gland						
20	Bonnet	ASTM A108 Carbon Steel AISI C1018	ASTM A276 316/316L STS	ASTM A108 Carbon Steel AISI C1018 per NACE MR0175 &/OR MR0103	ASTM A350 Carbon Steel Gr. LF2 Cl. 1	ASTM A276 304/304L STS ASTM A276 Duplex 2205 STS ASTM B164 Monel <sup>®</sup> 400 ASTM B473 Alloy 20 (CARP 20 Cb3) <sup>®</sup>	
21	Bonnet Nut	ASTM A108 Carbon Steel AISI C1018	Investment Cast 316 STS	ASTM A108 Carbon Steel AISI C1018	Investment Cast 316 STS	ASTM B335 Hastelloy B <sup>®</sup> ASTM B574 Hastelloy C <sup>®</sup> 276 ASTM A123 Galvanized Steel	
25	Stem Packing	Graphite composite				Teflon <sup>®</sup> Viton <sup>®</sup>	
26	Stem Packing Nut	ASTM A108 Carbon Steel AISI C1018	Investment Cast 316/316L STS	ASTM A108 Carbon Steel AISI C1018	Investment Cast 316/316L STS	ASTM A276 304/304L, Duplex 2205 STS ASTM B164 Monel <sup>®</sup> 400 ASTM B473 Alloy 20 (CARP 20 Cb3) <sup>®</sup> ASTM B335 Hastelloy B <sup>®</sup> ASTM B574 Hastelloy C <sup>®</sup> 276 ASTM A123 Galvanized Steel	
28	Handwheel	ASTM A216 Carbon Steel Gr. WCB				None	
30	Nut Wheel or Lever	ASTM A563 Steel Gr. A				None	
33	Star	ASTM A108 Carbon Steel AISI C1020				None	
34	Glass Packing	Graphite composite				Teflon <sup>®</sup> Viton <sup>®</sup>	
36	Glass Packing Gland	MPIF SS-316N2-33 316 STS (sintered)				ASTM A276 316/316L STS ASTM A276 304/304L STS ASTM A276 Duplex 2205 STS ASTM B164 Monel <sup>®</sup> 400 ASTM B473 Alloy 20 (CARP 20 Cb3) <sup>®</sup> ASTM B335 Hastelloy B <sup>®</sup> ASTM B574 Hastelloy C <sup>®</sup> 276	
37	Glass Packing Nut	ASTM A108 Carbon Steel AISI C1018	Investment Cast 316 STS	ASTM A108 Carbon Steel AISI C1018	Investment Cast 316 STS	ASTM A276 304/304L STS ASTM A276 Duplex 2205 STS ASTM B164 Monel <sup>®</sup> 400 ASTM B473 Alloy 20 (CARP 20 Cb3) <sup>®</sup> ASTM B335 Hastelloy B <sup>®</sup> ASTM B574 Hastelloy C <sup>®</sup> 276 ASTM A123 Galvanized Steel	
40	Guard Rods	ASTM A108 Carbon Steel AISI C1018	ASTM A276 304/304L STS	ASTM A108 Carbon Steel AISI C1018	ASTM A276 304/304L STS	None	
261	Lever	ASTM A395 Ductile Iron				None	

