

Protection Tube for Aggressive Environments BYA

Non-metal			With connection						
Ceramic, Metal-ceramic, Silicon carbide, Silicon nitride			OD [mm]		ID [mm]	L [mm]	Connection *	Application	
Code	Material	Type	Max. Temp. [°C]	Mechanical Strength	OD [mm]	ID [mm]	L [mm]	Connection *	Application
C1	Pythagoras 610 (Al ₂ O ₃ -60%)	1500	fair	10/15/24	6/10/19	<1350, <1900	none or metal nipple	high-temperature gaseous atmospheres	
C2	Oxal 710 (Al ₂ O ₃ -95%)	1600	fair	10/15/24	6/10/17	<330, <680, <900	none or metal nipple	high-temperature gaseous atmospheres	
C3	Alsint 799 (Al ₂ O ₃ -99.7%)	1700	fair	10/15/24	6/10/18	<330, <680, <950, <1350, <1900	none or metal nipple	high-temperature gaseous atmospheres	
C4	Ucar® (Cr + Al ₂ O ₃)	1370	excellent	22	16	229, 305, 457, 610, 762, 914, 1219	none or metal gland	ferrous metals baths (steels), brass, copper, zinc, lead	
C5	Silicon carbide (SiC)	1500	good	17/23	10	300/900	none or metal nipple	aluminum and most of non-ferrous metal baths	
C6	Hexoloy® (SiC)	1650	good	10/16/19/25/32	6/10/13/13/19	<686, <1372	none or metal nipple	most corrosive and erosive environments	
C7	Syalon (SiN ₄ + AlO ₄)	1250	very good	16/22/28	9/12/16	300, 600, 900, 1200, 1500	none or metal nipple	aluminum and most of non-ferrous metal baths	

* The connection thread can differ depending on tube parameters!

Metal			Swagged Welded Bored						
Pure and cast iron, Black steel, Stainless steel, Nickel alloys, Titanium alloy			OD [mm]		ID [mm]	L [mm]	Thread ***	Application	
Code	Material	Type	Max. Temp. [°C]	Closing Method	OD [mm]	ID [mm]	L [mm]	Thread ***	Application
M1	1.4301 (AISI 304)	450	welded **	21	15	500, 750, 1000	G1/2" (M)	food and dairy products, petroleum products, mild acids, alkalis	
M3	1.4571 (AISI 316 Ti)	850	welded **	21	15	500, 750, 1000	G1/2" (M)	as above, but increased resistance to acids	
M6	1.4845 (AISI 310 S)	1100	welded **	21	15	500, 750, 1000	G1/2" (M)	sulphurous atmospheres and hydrous solvents; chlorine and cyanide	
M13	Black steel	600	welded **	21/30	15/20	400, 700, 900	G1/2" (F) G3/4" (F)	molten babbitt, tin, lead, and magnesium baths	
M14	Kanthal® AF	1300	welded **	22	18	300, 600, 900	G1/2" (F)	high-temperature sulphurous carburizing and nitriding atmospheres; cracked ammonia; molten copper, zinc, magnesium	
M4	1.4762 (AISI 446)	1150	swagged	21	15	500, 600, 1000	G1/2" (M)	high-temperature sulphurous atmospheres, neutral salt baths	
M8	2.4816 (Inconel 600)	1100	swagged	21	15	500, 800, 1000	G1/2" (M)	salt baths, carburizing and nitriding atmospheres	
M9	1.4404 (AISI 316 L)	850	swagged	21	15	500	G1/2" (M)	food and dairy products, petroleum products, mild acids and alkalis	
M6S	1.4845 (AISI 310 S)	1100	swagged	21	15	800, 1000	G1/2" (M)	sulphurous atmospheres and hydrous solvents; chlorine and cyanide	
M11	Pure iron	1300	bored	30	16	400, 500, 600, 800, 1000	G1/2" (F)	salt, cyanide, and chloride baths	
M12	Cast iron	700	bored	35	9.5	300, 400, 500, 600, 750, 900	G1/2" (F)	molten aluminum, gas ducts, sulphur and caustic solutions	
M20	Titanium alloy	600	bored	10	8	100, 200, 300	M10 (M)	highly aggressive chemical solvents and gas mixtures	

** Welded tubes have less resistance to aggressive, corrosive, and erosive media than swagged and bored have!

*** The thread always presents!

Ordering code BYA - G10.G5.G6.G9

Code	Feature or option	Code values
G10	Sheath material	C1...C7 - non-metal, M1...M20 - metal
G5	Outer diameter 'OD' [mm]	from tables overleaf
G6	Length 'L' [mm]	from tables overleaf
G9	Connection thread	X - none ⁽¹⁾ , G - mounted (see tables overleaf)

⁽¹⁾For non-metal tube only!