ABOUT PLX INSTALLATION

PLX is a brand name of 1.4462 Duplex Stainless Steel which composition could be compared with common Stainless Steels on table below:

	C	SI	MN	PMAX	SMAX	CR	NI	MO	TI	CU	N(PPM)	N_2	OTHERS
1.4462	<=0.030	<=1.00	<=2.00	<=0.035	<=0.015	22.00-23.00	4.50-6.50	3.00-3.50	-	-	-	-	N= 0.14-0.20
AISI 316	<=0.030	<=0.75	<=2.00	<=0.040	<=0.030	16.00-18.00	10.00-12.00	2.00-2.50	-	-	-	-	-
AISI 304	<=0.070	<=0.75	<=2.00	<=0.040	0.020-0.030	18.00-19.00	8.00-9.00	-	-	-	-	-	N(ppm)<110

According to UIAA classification, it's a Class 2 material, recommended for coastal areas where SCC(Stress Corrosion Cracking) is specially severe.

It has a better PRE(Pitting Resistance Equivalent number) than common AISI316 or AISI304, cause its % of molybdenum is higher than common stainless steels.

	1.4462	AISI316	AISI304
PRE	35	24	18

PREN = 1 X %CR + 3.3 X %MO + 16 X %N

The PRE number is the commonly rate to analyse the corrosion resistance of a material.

About the installation of Duplex products together with AISI 316 or AISI304 products, it's no problematic on those areas where humidity and corrosive environaments are not crytical (check norm BS6484 Annexed table)

On those areas where mentioned factors are specially importants (<50km from the sea coast aprox.), according to UIAA and TechROCK recommendations, just Class 2 material(1.4462) is recomended, not Class 3(AISI316) or Class4(AISI304), so assemblying materials in this cases is not recommended, it should be used an anchor assembly system completly made of 1.4462.

FIXE
CLIMBING GEAR

ANNEX

304, 316

Table 19. Additional corrosion of stainless steel (austenitic, with approximately 18 % chromium) resulting from contact with other metals or carbon*

See also table	Metal in contact	Environment				
		Atmospheric			Immersed	
		Rural	Industrial/urban	Marine	Fresh water	Sea water
1	Aluminium and aluminium alloys	0	0†	0	(0)	0
2	Aluminium bronzes and silicon bronzes	0	1‡	(0 to 1)†‡	–	0 to 1§
3	Brasses including high tensile (HT) brass (manganese bronze)	0	1‡	(0 to 1)†‡	–	0 to 1§
4	Cadmium	0	0	0	(0)	0
	Carbon	–	–	–	–	1§
5	Cast irons	0†	1†	–	(0)	0
6	Cast iron (austenitic)	–	(0)	–	(0)	0§
7	Chromium	0	(0)	(0)	(0)	(0)
8	Copper	0	1†‡	(0 to 2)†‡	–	0 to 3§
9	Cupro-nickels	(0)	1†‡	(0 to 2)†‡	–	0 to 3§
	Gold	–	–	–	–	–
10	Gunmetals, phosphor bronzes and tin bronzes	(0)	(0)	(0)	(0)	(0 to 1)§
11	Lead	0	–	0	–	0 to 1
12	Magnesium and magnesium alloys	(0)	0	(0)	(0)	0
13	Nickel	–	–	(0)	–	0§
14	Nickel-copper alloys	0	0 to 1	0 to 1†‡	–	0 to 2§
15	Nickel-chromium-iron alloys	–	–	–	–	0 to 2§
16	Nickel-chromium-molybdenum alloys	–	–	–	–	0 to 2§
17	Nickel silvers	–	–	–	–	0 to 1§
	Platinum	–	–	–	–	–
	Rhodium	–	–	–	–	–
	Silver	–	–	–	–	–
	Solders hard	–	–	–	–	0 to 1§
18	Solders soft‖	–	–	–	(0)	0§
	Stainless steel (austenitic and other grades containing approximately 18 % chromium)					
20	Stainless steel (martensitic grades containing approximately 13 % chromium)	0	0	0 to 1	(0)	0§
21	Steels (carbon and low alloy)	0†	0†	0 to 1†	(0)†	0†§
22	Tin	–	–	–	–	(0 to 1)§
	Titanium and titanium alloys	–	–	–	–	–
23	Zinc and zinc base alloys	0†	0	0	(0)	0

Key

0 Austenitic stainless steels will suffer either no additional corrosion, or at the most only very slight additional corrosion, usually tolerable in service.

1 Austenitic stainless steels will suffer slight or moderate additional corrosion which may be tolerable in some circumstances.

2 Austenitic stainless steels may suffer fairly severe additional corrosion and protective measures will usually be necessary.

3 Austenitic stainless steels may suffer severe additional corrosion and the contact should be avoided.

General notes. Ratings in brackets are based on very limited evidence and hence are less certain than other values shown.

Dashes indicate that no evidence is available and no general guidance can be given.

The table is in terms of *additional corrosion* and the symbol 0 should not be taken to imply that the metals in contact need no protection under all conditions of exposure.

*Crevice corrosion may occur.

†Corrosion products from the metal in contact may be deposited on the stainless steel, at best discolouring the stainless steel and at worst promoting corrosion of the stainless steel under the deposit.

‡Effect will depend on relative areas over which water, e.g. rain or condensation, may be retained.

§Effect depends on relative areas. If the area of stainless steel is small in relation to that of the coupled metal there may be considerable extra corrosion. If the areas are equal there may be some effect. If the area of stainless steel is relatively large there would not normally be any extra corrosion though pitting may be more likely to occur.

‖Residues of fluxes containing halides used in soldering are likely to increase corrosion rates. When strongly corrosive fluxes are used the joint should be thoroughly cleaned after soldering.

Extracted from BS6484 norm