

## TG-X308L

100%Ar  
AWS A5.22 R 308LT1-5  
EN 1.4316

## TG-X309L

100%Ar  
AWS A5.22 R 309LT1-5  
EN 1.4332

## TG-X316L

100%Ar  
AWS A5.22 R 316LT1-5  
EN 1.4430

## TG-X347

100%Ar  
AWS A5.22 R 347T1-5  
EN 1.4551

## TG-X2209

100%Ar  
EN 1.4462

## Description and Application

These are all rutile flux cored TIG filler rods for root pass welding of stainless steel pipe without the need for a reverse side back purge (internal shielding gas). As they produce a slag, they are not recommended for multi-pass welding.

TG-X308L is for welding 18%Cr-8%Ni type stainless steel.

TG-X309L is for dissimilar joints between stainless and mild steel or medium carbon steels.

TG-X316L is for 18%Cr-12%Ni-2%Mo stainless steel.

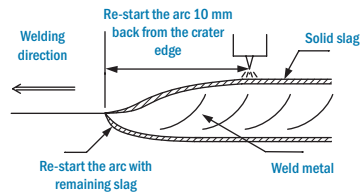
TG-X347 is for 18%Cr-8%Ni+Ti or 18%Cr-8%Ni+Nb stabilized stainless steel.

TG-X2209 for welding duplex 1.4462 stainless steel.

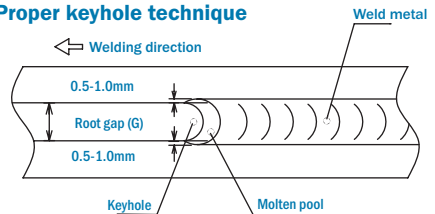
## Proper root gap

Groove Preparation			
	Plate thickness (T)	4 mm	6 mm
Root gap (G)	2.0 mm	2.5 mm	3.0 mm

## Proper bead connection



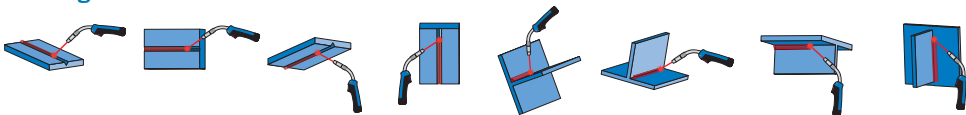
## Proper keyhole technique



## Typical Chemical Analysis (wt. %)

	C	Si	Mn	P	S	Ni	Cr	Mo	N	Nb+Ta	FS	FN	FNW
<b>TG-X308L</b>	0.02	0.80	1.70	0.023	0.005	10.3	19.6	-	-	-	9	13	-
<b>TG-X309L</b>	0.02	0.80	1.50	0.022	0.006	12.6	24.3	-	-	-	14	>18	-
<b>TG-X316L</b>	0.02	0.90	1.60	0.023	0.004	12.5	18.9	2.3	-	-	8	13	-
<b>TG-X347</b>	0.02	0.80	1.60	0.021	0.004	10.2	19.0	-	-	0.7	9	13	-
<b>TG-X2209</b>	0.02	0.64	1.84	0.015	0.003	9.5	23.1	3.34	0.15	-	-	-	47

## Welding Positions



## Typical Mechanical Properties

	R <sub>e</sub> (MPa)	R <sub>m</sub> (MPa)	A <sub>5</sub> (%)	CV (J)	°C
<b>TG-X308L</b>	450	620	47	60	-196
<b>TG-X309L</b>	530	680	32	-	-
<b>TG-X316L</b>	440	600	38	110	0
<b>TG-X347</b>	460	630	48	130	0
<b>TG-X2209</b>	603	811	32	138	-50

\* The information contained or otherwise referenced herein is presented only as "typical" without guaranty or warranty. Typical data is obtained when welded and tested in accordance with EN or AWS standards. This data is intended to help the user choose the correct product. However, we do not assume any liability for correctness and information is subject to change without notice.