

## TG-X308L

100%Ar.

AWS A5.22 R 308LT1-5  
1.4316

## TG-X309L

100%Ar.

AWS A5.22 R 309LT1-5  
1.4332

## TG-X316L

100%Ar.

AWS A5.22 R 316LT1-5  
1.4430

## TG-X347

100%Ar.

AWS A5.22 R 347LT1-5  
1.4551

### 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.

#### ● Proper root gap

|                    |                     |        |            |
|--------------------|---------------------|--------|------------|
| Groove Preparation |                     |        |            |
|                    | Plate thickness (T) | 4 mm   | 6 mm       |
|                    | Root gap (G)        | 2.0 mm | 2.5 mm     |
|                    |                     |        | 10 mm min. |
|                    |                     |        | 3.0 mm     |

#### Typical Chemical Analysis (wt. %)

|          | C    | Si   | Mn   | P     | S     | Ni   | Cr   | Mo  | N | Nb+Ta | FS | FN  |
|----------|------|------|------|-------|-------|------|------|-----|---|-------|----|-----|
| TG-X308L | 0.02 | 0.80 | 1.70 | 0.023 | 0.005 | 10.3 | 19.6 | -   | - | -     | 9  | 13  |
| TG-X309L | 0.02 | 0.80 | 1.50 | 0.022 | 0.006 | 12.6 | 24.3 | -   | - | -     | 14 | >18 |
| TG-X316L | 0.02 | 0.90 | 1.60 | 0.023 | 0.004 | 12.5 | 18.9 | 2.3 | - | -     | 8  | 13  |
| TG-X347  | 0.02 | 0.80 | 1.60 | 0.021 | 0.004 | 10.2 | 19.0 | -   | - | 0.7   | 9  | 13  |

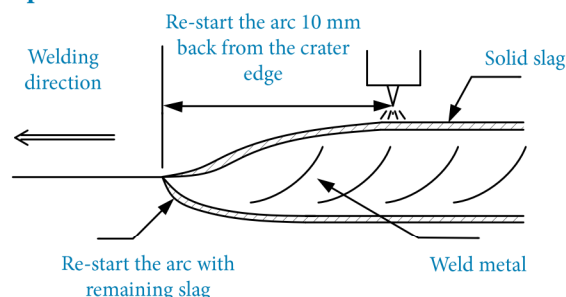
#### Typical Mechanical Properties

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

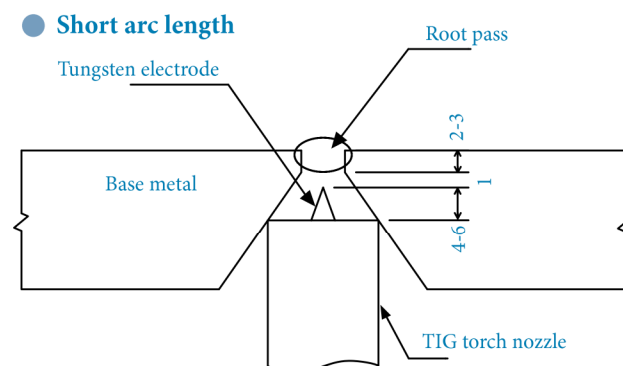
#### Welding Positions



#### ● Proper bead connection



#### ● Short arc length



#### ● Proper keyhole technique

