347AP

References

Basic chemical composition: 18Cr-11Ni-0.3Nb
UNS No.: S34751
ASTM: A213/A213M, A312/A312M, A182/A182M, A240/A240M, A403/A403M, A358/A358M, A965/A965M, A193-B8C, A194-8C, A580/A580M
ASME: Code Case 2196-3
EN:
JIS:
Others:

Classification: Austenitic
Application: Piping
Feature: PTA-SCC

Main Features

- A welded joint has the excellent polythionic acid stress corrosion cracking resistance without PWHT.
- Weldability is better than TP347 and equal to that of TP304.
- High temperature strength is the same level as TP347.

Standard

- UNS No.S34751
- ASTM A213/A213M, A312/A312M, A182/A182M,A240/A240M, A358/A358M, A403/A403M
- ASTM A965/A965M, A193-B8C, A194-8C, ASTM A580
- ASME Code Case 2196-3
- Vd TÜV Material data sheet 571/2 Supplement 06.2012

Chemical Composition

(mass%)

C	Mn	P	S	Si	Cr	Ni	N	Nb	Nb/C
0.005-0.020	max.2.00	max.0.045	max.0.030	max.1.00	17.0-20.0	9.0-13.0	0.06-0.10	0.06-0.50	min15

Properties

Tensile Properties

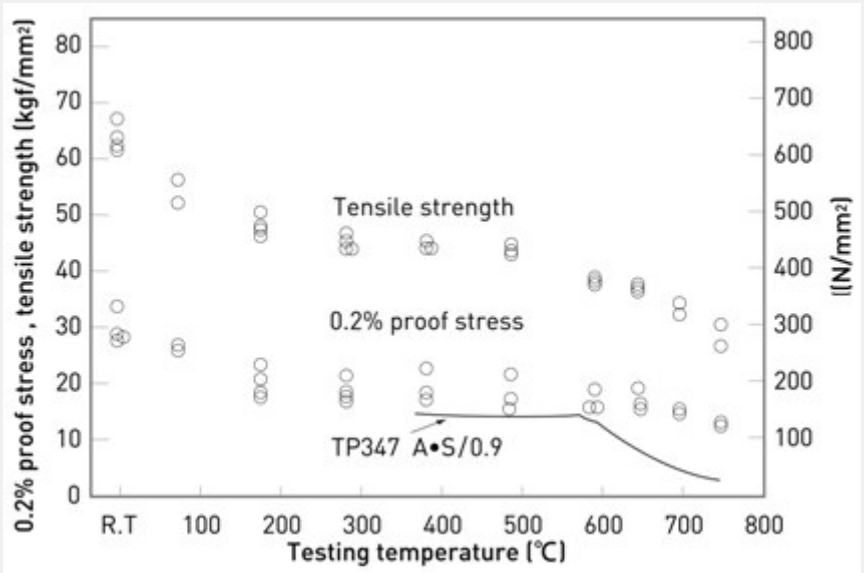


Fig. High temperature tensile properties of 347AP.

Tensile strength of 347AP is equivalent to that of conventional TP347 at each temperature.

Creep Rupture Properties

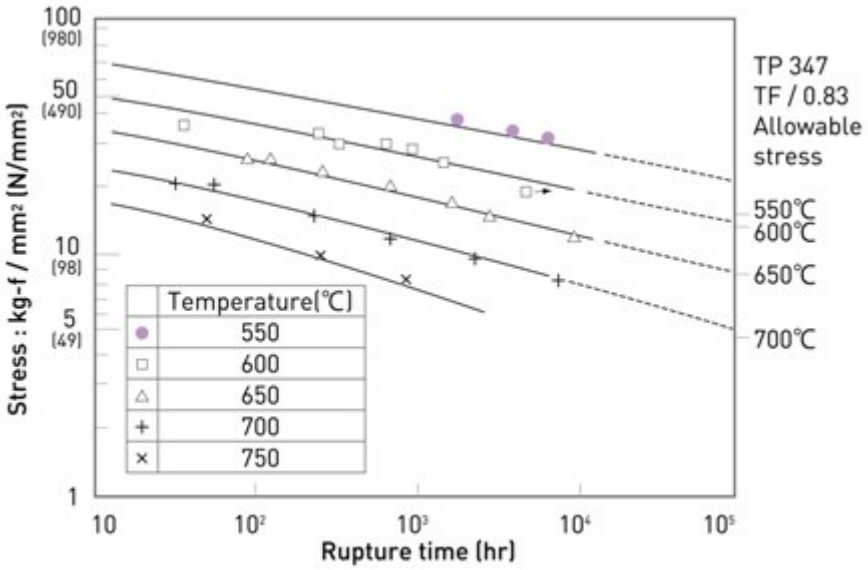


Fig. Creep rupture test results of base metal.

Creep rupture of 347AP satisfies ASME allowable stress of conventional TP347.

Weldability (Hot weld Cracking)

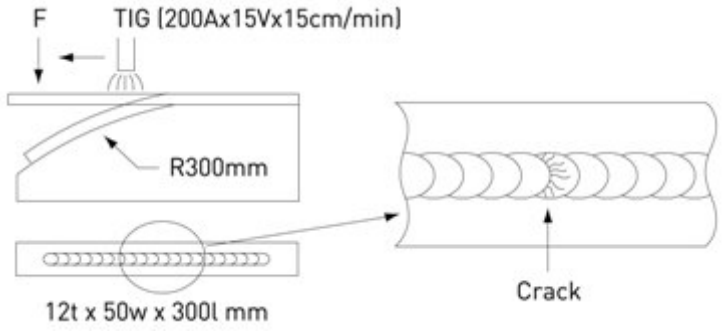


Fig. Varestraint test.

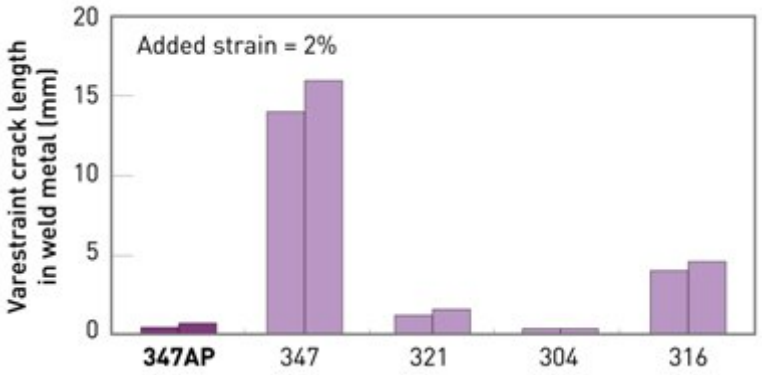
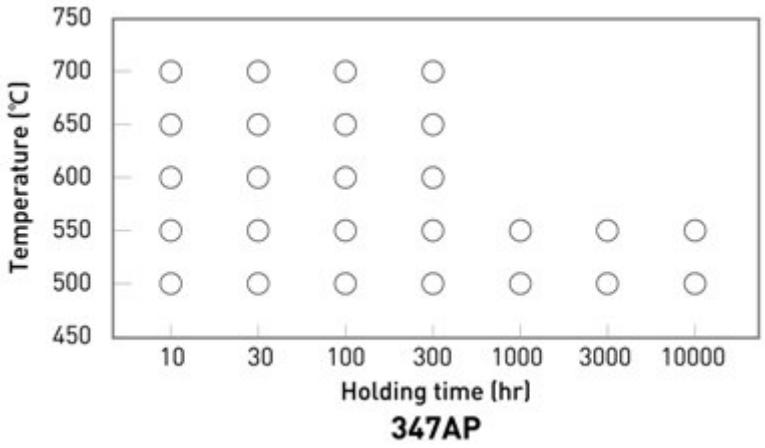


Fig. Result of varestraint test.

Weldability of 347AP is much better than conventional TP347, equivalent to TP304.

Corrosion Resistance of GTAW Welded Joints (Without PWHT)



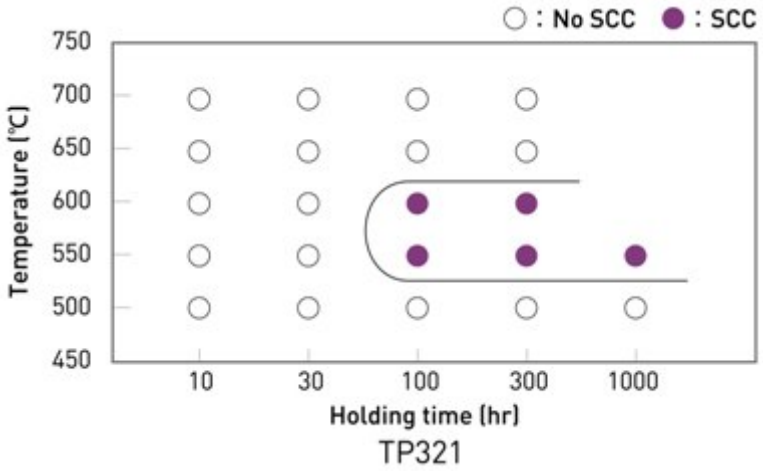


Fig. Effect of aging conditions on SCC resistance of weldments of 347AP and TP321.

(ASTM G35 using U-bend specimen;720 hrs immersion)

Corrosion resistance of GTAW welded joints is excellent without PWHT.