

Title (en)  
SEAMLESS AUSTENITE HEAT-RESISTANT ALLOY TUBE

Title (de)  
NAHTLOSES UND WÄRMEBESTÄNDIGES AUSTENITISCHES LEGIERUNGSROHR

Title (fr)  
TUBE EN ALLIAGE RÉSISTANT À LA CHALEUR EN AUSTÉNITE SANS SOUDURE

Publication  
**EP 2781612 A4 20160302 (EN)**

Application  
**EP 12850463 A 20121107**

Priority  
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• JP 2012078788 W 20121107

Abstract (en)  
[origin: EP2781612A1] A seamless austenitic heat-resistant alloy tube used by fillet-welding the outer surface thereof directly, having a chemical composition consisting, by mass percent, of C: 0.03-0.15%, Si#±1%, Mn#±2%, P#±0.03%, S#±0.01%, Ni: 35-60%, Cr: 18-38%, W: 3-11%, Ti: 0.01-1.2%, Al#±0.5%, B: 0.0001-0.01%, N#±0.02%, and O#±0.008%, and at least one element selected from Zr: 0.01-0.5%, Nb: 0.01-0.5%, and V: 0.01-0.5%, with the balance being Fe and impurities, wherein an average grain diameter  $d$   $\mu\text{m}$  at the center of the wall thickness of the tube is 1000  $\mu\text{m}$  or smaller and satisfies the formula ( $d$ #±1500-2.5×10<sup>5</sup> ×B), the thickness of an oxide layer on the outer surface of the tube is 15  $\mu\text{m}$  or smaller. The tube of the present invention is excellent in weld crack resistance and capable of restraining the generation of cracks in a HAZ at the time of welding.

IPC 8 full level  
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Citation (search report)  
• [A] EP 2206796 A1 20100714 - SUMITOMO METAL IND [JP]  
• See references of WO 2013073423A1

Cited by  
EP3581669A4; US11248297B2; EP3760753A4; WO2019224289A1; US11268195B2

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