



Approval No. AL1RO

Certificate No. TA171165E

APPROVAL OF MANUFACTURING PROCESS

This is to certify that

Aleris Rolled Products Germany GmbH
Carl-Spaeter-StraÙe, Koblenz
Germany

has been approved for the manufacturing process of undermentioned materials by the NIPPON KAIJI KYOKAI in accordance with the requirements of 1.2, Part K of the Society's "Rules for the Survey and Construction of Steel Ships" and Chapter 5, Part 1 of the Society's "Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use".

MATERIALS : Aluminium Alloys

The details of the relevant approval conditions are given in the PARTICULARS OF APPROVAL listed in the reverse of this certificate.

The products for the ships classed with the Society are to be manufactured, tested and inspected in compliance with the Rules.

This certificate is valid from 5 January 2017 until 4 January 2022.

Issued at Tokyo on 30 November 2017.

Renewal Date : 5 January 2017

H. Kobayashi
General Manager
Material and Equipment Department



No. : TA171166E

Date : 30 November 2017

PARTICULARS OF APPROVAL

Approval Condition for Manufacturing Process of Aluminium Alloys

1. Manufacturer : Aleris Rolled Products Germany GmbH
2. Kind of Products : Plates
3. Grades : See Table 1.
4. System of Constituent : See Table 1.
5. Temper Conditions : See Table 1.
6. Max. Thickness : See Table 1.

Table 1 : Supply Conditions

Grade	Temper Conditions	System of Constituent	Max. Thickness (mm)
5083P	H321	Al-Mg	77
	O		77
5059P	H321	Al-Mg-Mn-Zn	40
	H116		40
	H111		40
	O		40



 H. Kobayashi
 General Manager
 Material and Equipment Department