

MATERIAL MANUFACTURE CERTIFICATE

Certificate No.:

12210-2018-CE-USA-DNV

Initial date:

15 March 2009

Validity

17 April, 2021 - 16 April, 2024

This certificate consists of 5 pages

This is to verify that:

WESTERN FORGE AND FLANGE COMPANY

687 County Rd. 2201, Cleveland, TX 77327, USA

for

FORGED FLANGES AND RING FORGINGS

has implemented and is maintaining a certified quality assurance system which has undergone a specific assessment for materials for applications covered by Directive 2014/68/EU on pressure equipment, and is found to comply with Annex I, section 4.3, for acceptance of type 3.1 material certificates according to EN 10204:2004

Further details are given in the following pages

Place and date: Vimercate, 17 March, 2021



For the issuing office:

DNV GL Business Assurance Italia S.r.l., Italy

Nicola Privato Management Representative



Certificate No.: 12210-2018-CE-USA-DNV Place and date: Vimercate 17 March, 2021

Revision No.: 01

Certificate history:

Revision	Description	Issue Date
00	Recertification; Transition from DNV GL AS Norway cert PEDMC0000002 to DNV GL Business Assurance Italia S.r.l.	15 March 2018
01	Recertification	17 March, 2021

Products covered by this Certificate:

Product Name	FORGED FLANGES AND RING FORGINGS
Material Types	See Materials / Applicable Specifications listed below

Legend:

A - ASTM SPECIFICATION

SA - ASME SPECIFICATION

AMS - Aerospace Material Specification

QQ - Federal Specification

GRADE	UNS NO.	FORGING SPECIFICATIONS
F304	S30400	A/SA182, A/SA403, QQ-S-763
F304H	S30409	A/SA182, A/SA403, QQ-S-763
F304L	S30403	ALL ABOVE + AMS 5647
F304LN	S30453	A182
F304N	S30451	A/SA182, A/SA403
F309	S30900	A/SA403, QQ-S-763
F310	S31000	A/SA182, A/SA403, QQ-S-763
F310S	S31008	QQ-S-763
F316	S31600	A/SA182, A/SA403, QQ-S-763
F316H	S31609	A/SA182, A/SA403, QQ-S-763
F316L	S31603	ALL ABOVE + AMS 5653
F316LN	S31653	A/SA182
F316N	S31651	A/SA182, A/SA403
F317	S31700	A/SA182, A/SA403, QQ-S-763
F317L	S31703	A/SA182
F321	S32100	A/SA182, A/SA403, AMS 5645
F321H	S32109	A/SA182, A/SA403
F347	S34700	A/SA182, A/SA403, AMS
		5646/5654
F347H	S34709	A/SA182, A/SA403
F44 (254 SMO)	S31254	A/SA182



Certificate No.: 12210-2018-CE-USA-DNV Place and date: Vimercate 17 March, 2021 Revision No.: 01

F45 (253 MA) S30815 A/SA182 F47 (317LM) S31725 A/SA182 F48 (317LMN) S31726 A/SA182 F63 (410) S43000 A/SA182 F640 (410) S41000 A/SA182, AMS 5613 F6NM S41500 A/SA182 F410S S41008 A/SA182 (F6A), AMS 5613 NITRONIC 50 S20910 A/SA182, A/SA403 (XM-19) NITRONIC 60 S21800 NONE 15-5 PH S15500 A564, AMS 5659 17-4 PH S17400 A/SA564 (630), AMS 5643 F51 (DUPLEX) S31803 A/SA182 F60 (2205) S32205 A/SA182 F53 (2507) S32750 A/SA182 FFRR 255 S39253* A/SA182 (*F61/S32550 New UNS No.) A105 CS K03504 A/SA105 A350 LF-1 K03009 A/SA350 A350 LF-2 K03011 A/SA350 F1 K12822 A/SA182 F5 (501SS) K41545 A/SA182 F5 (501SS) K41545 A/SA182 F51 CL-1 K1597 A/SA182 F11 CL-2 K11572 A/SA182 F12 CL-1 K11562 A/SA182 F12 CL-1 K11562 A/SA182 F12 CL-1 K11564 A/SA182 F12 CL-1 K11564 A/SA182 F12 CL-1 K21590 A/SA182 ALUM 1100 A91100 B/SB247, B/SB361 ALUM 2014 A92014 B/SB247, B/SB361 ALUM 5083 A95083 B/SB247, B/SB361 ALUM 5085 AND A/SA184 ALUM 5086 AND A/SA184			
F48 (317LMN) S31726 A/SA182 F430 S43000 A/SA182 F6a (410) S41000 A/SA182, AMS 5613 F6nM S41500 A/SA182 F410S S41008 A/SA182 (F6A), AMS 5613 NITRONIC 50 S20910 A/SA182, A/SA403 (XM-19) NITRONIC 60 S21800 NONE 15-5 PH S15500 A564, AMS 5659 17-4 PH S17400 A/SA564 (630), AMS 5643 F51 (DUPLEX) S31803 A/SA182 F60 (2205) S32205 A/SA182 F53 (2507) S32750 A/SA182 F53 (2507) S32750 A/SA182 F53 (2507) S32750 A/SA182 F58 (255) S39253* A/SA182 (*F61/S32550 New UNS No.) A350 LF-1 K03009 A/SA350 A350 LF-2 K03011 A/SA350 A350 LF-3 K32025 A/SA350 F1 K12822 A/SA182 F5 (501SS) K41545 A/SA182 F5a K42544 <t< td=""><td></td><td></td><td>A/SA182</td></t<>			A/SA182
F430 S43000 A/SA182 F6a (410) S41000 A/SA182, AMS 5613 F6NM S41500 A/SA182 F410S S41008 A/SA182 (F6A), AMS 5613 NITRONIC 50 S20910 A/SA182, A/SA403 (XM-19) NITRONIC 60 S21800 NONE 15-5 PH S15500 A564, AMS 5659 17-4 PH S17400 A/SA564 (630), AMS 5643 F51 (DUPLEX) S31803 A/SA182 F60 (2205) S32205 A/SA182 F60 (2205) S32205 A/SA182 F60 (2205) S32750 A/SA182 F60 (2205) S32750 A/SA182 F60 (2205) S32750 A/SA182 F61 (2205) S3253* A/SA182 F83 (2507) S32750 A/SA182 F84 (254) A/SA182 F87 (250) K03504 A/SA182 A350 LF-1 K03009 A/SA350 A350 LF-2 K03011 A/SA350 A350 LF-3 K32025 A/SA182	F47 (317LM)	S31725	A/SA182
F6a (410) S41000 A/SA182, AMS 5613 F6NM S41500 A/SA182 F410S S41008 A/SA182 (F6A), AMS 5613 NITRONIC 50 S20910 A/SA182, A/SA403 (XM-19) NITRONIC 60 S21800 NONE 15-5 PH S15500 A564, AMS 5659 17-4 PH S17400 A/SA564 (630), AMS 5643 F51 (DUPLEX) S31803 A/SA182 F60 (2205) S32205 A/SA182 F53 (2507) S32750 A/SA182 F53 (2507) K03504 A/SA182 F53 (2507) K32750 A/SA182 F53 (2507) K03504 A/SA182 F53 (2507) K03504 A/SA182 F54 (2508) K03504 A/SA350 A350 LF-1 K03009 A/S	F48 (317LMN)	S31726	A/SA182
F6NM S41500 A/SA182 F410S S41008 A/SA182 (F6A), AMS 5613 NITRONIC 50 S20910 A/SA182, A/SA403 (XM-19) NITRONIC 60 S21800 NONE 15-5 PH S15500 A564, AMS 5659 17-4 PH S17400 A/SA564 (630), AMS 5643 F51 (DUPLEX) S31803 A/SA182 F60 (2205) S32205 A/SA182 F53 (2507) S32750 A/SA182 FERR 255 S39253* A/SA182 (*F61/S32550 New UNS No.) A105 CS K03504 A/SA105 A350 LF-1 K03009 A/SA350 A350 LF-2 K03011 A/SA350 A350 LF-2 K03011 A/SA350 F1 K12822 A/SA182 F5 (501SS) K41545 A/SA182 F5 K42544 A/SA182 F9 K90941 A/SA182 F9 K90941 A/SA182 F11 CL-1 K11597 A/SA182 F11 CL-2 K11572 A/SA182 F11 CL-2 K11572 A/SA182 F12 CL-1 K11562 A/SA182 F12 CL-1 K11564 A/SA182 F12 CL-2 K11564 A/SA182 F12 CL-3 K21590 A/SA182 F12 CL-3 K21590 A/SA182 ALUM 1100 A91100 B/SB247, B/SB361 ALUM 2014 A92014 B/SB247, B/SB361 ALUM 3003 A93003 B/SB247, B/SB361 ALUM 3003 A93003 B/SB247, B/SB361	F430	S43000	A/SA182
F410S	F6a (410)	S41000	A/SA182, AMS 5613
NITRONIC 50 S20910 A/SA182, A/SA403 (XM-19) NITRONIC 60 S21800 NONE 15-5 PH S15500 A564, AMS 5659 17-4 PH S17400 A/SA564 (630), AMS 5643 F51 (DUPLEX) S31803 A/SA182 F60 (2205) S32205 A/SA182 F53 (2507) S32750 A/SA182 FERR 255 S39253* A/SA182 (*F61/S32550 New UNS No.) A105 CS K03504 A/SA105 A350 LF-1 K03009 A/SA350 A350 LF-2 K03011 A/SA350 A350 LF-3 K32025 A/SA182 F5 (501SS) K41545 A/SA182 F5 (501SS) K41545 A/SA182 F9 K90941 A/SA182 F9 K90941 A/SA182 F11 CL-1 K11597 A/SA182 F11 CL-2 K11572 A/SA182 F11 CL-3 K11572 A/SA182 F12 CL-1 K11562 A/SA182 F12 CL-1 K11564 A/SA182 F22 CL-1 K21590 A/SA182 F22 CL-1 K21590 A/SA182 ALUM 1100 A91100 B/SB247, B/SB361 ALUM 2014 A92014 B/SB247, B/SB361 ALUM 2014 A92014 B/SB247, B/SB361 ALUM 5083 A95083 B/SB247, B/SB361	F6NM	S41500	A/SA182
NITRONIC 60 \$21800 NONE 15-5 PH \$15500 A564, AMS 5659 17-4 PH \$17400 A/SA564 (630), AMS 5643 F51 (DUPLEX) \$31803 A/SA182 F60 (2205) \$32205 A/SA182 F53 (2507) \$32750 A/SA182 FERR 255 \$39253* A/SA182 (*F61/S32550 New UNS No.) A105 CS K03504 A/SA105 A350 LF-1 K03009 A/SA350 A350 LF-2 K03011 A/SA350 A350 LF-3 K32025 A/SA350 F1 K12822 A/SA182 F5 (501SS) K41545 A/SA182 F5a K42544 A/SA182 F9 K90941 A/SA182 F11 CL-1 K11572 A/SA182 F11 CL-2 K11572 A/SA182 F11 CL-3 K11572 A/SA182 F12 CL-1 K11562 A/SA182 F12 CL-1 K11564 A/SA182 F22 CL-3 K21590 A/SA182 F22 CL	F410S	S41008	The second secon
15-5 PH \$15500 A564, AMS 5659 17-4 PH \$17400 A/SA564 (630), AMS 5643 F51 (DUPLEX) \$31803 A/SA182 F60 (2205) \$32205 A/SA182 F53 (2507) \$32750 A/SA182 FERR 255 \$39253* A/SA182 (*F61/S32550 New UNS No.) A105 CS K03504 A/SA105 A350 LF-1 K03009 A/SA350 A350 LF-2 K03011 A/SA350 A350 LF-3 K32025 A/SA182 F5 (501SS) K41545 A/SA182 F5 K42544 A/SA182 F5a K42544 A/SA182 F9 K90941 A/SA182 F11 CL-1 K11597 A/SA182 F11 CL-2 K11572 A/SA182 F11 CL-3 K11572 A/SA182 F12 CL-1 K11562 A/SA182 F12 CL-2 K11564 A/SA182 F12 CL-3 K21590 A/SA182 F22 CL-1 K21590 A/SA182 F22 CL	NITRONIC 50	S20910	A/SA182, A/SA403 (XM-19)
17-4 PH \$17400 A/\$A564 (630), AMS 5643 F51 (DUPLEX) \$31803 A/\$A182 F60 (2205) \$32205 A/\$A182 F53 (2507) \$32750 A/\$A182 FERR 255 \$39253* A/\$A182 (*F61/\$32550 New UNS No.) A105 CS K03504 A/\$A105 A350 LF-1 K03009 A/\$A350 A350 LF-2 K03011 A/\$A350 A350 LF-3 K32025 A/\$A350 F1 K12822 A/\$A182 F5 (501SS) K41545 A/\$A182 F5a K42544 A/\$A182 F9 K90941 A/\$A182 F11 CL-1 K11597 A/\$A182 F11 CL-2 K11572 A/\$A182 F11 CL-3 K11572 A/\$A182 F12 CL-1 K11562 A/\$A182 F12 CL-2 K11564 A/\$A182 F12 CL-1 K21590 A/\$A182 F22 CL-3 K21590 A/\$A182 F22 CL-3 K21590 A/\$A182 F22 CL-3 <td>NITRONIC 60</td> <td>S21800</td> <td>NONE</td>	NITRONIC 60	S21800	NONE
F51 (DUPLEX)	15-5 PH	S15500	A564, AMS 5659
F60 (2205) S32205 A/SA182 F53 (2507) S32750 A/SA182 FERR 255 S39253* A/SA182 (*F61/S32550 New UNS No.) A105 CS K03504 A/SA105 A350 LF-1 K03009 A/SA350 A350 LF-2 K03011 A/SA350 A350 LF-3 K32025 A/SA350 F1 K12822 A/SA182 F5 (501SS) K41545 A/SA182 F5a K42544 A/SA182 F9 K90941 A/SA182 F11 CL-1 K11597 A/SA182 F11 CL-2 K11572 A/SA182 F11 CL-3 K11572 A/SA182 F12 CL-1 K11562 A/SA182 F12 CL-2 K11564 A/SA182 F22 CL-3 K21590 A/SA182 F22 CL-3 K21590 A/SA182 F22 CL-3 K21590 A/SA182 F22 CL-3 K21590 A/SA182 ALUM 1100 A91100 B/SB247, B/SB361 ALUM 2014	17-4 PH	S17400	A/SA564 (630), AMS 5643
F53 (2507)	F51 (DUPLEX)	S31803	A/SA182
FERR 255 S39253* A/SA182 (*F61/S32550 New UNS No.) A105 CS K03504 A/SA105 A350 LF-1 K03009 A/SA350 A350 LF-2 K03011 A/SA350 A350 LF-3 K32025 A/SA350 F1 K12822 A/SA182 F5 (501SS) K41545 A/SA182 F5a K42544 A/SA182 F9 K90941 A/SA182 F11 CL-1 K11597 A/SA182 F11 CL-2 K11572 A/SA182 F11 CL-3 K11572 A/SA182 F12 CL-1 K11562 A/SA182 F12 CL-1 K11564 A/SA182 F12 CL-1 K21590 A/SA182 F22 CL-1 K21590 A/SA182 ALUM 1100 A91100 B/SB247, B/SB361 ALUM 2014 A92014 B/SB247, B/SB361 ALUM 5083 A95083 B/SB247, B/SB361	F60 (2205)	S32205	A/SA182
No. No. A105 CS	F53 (2507)	S32750	A/SA182
A105 CS	FERR 255	S39253*	A/SA182 (*F61/S32550 New UNS
A350 LF-1 K03009 A/SA350 A350 LF-2 K03011 A/SA350 A350 LF-3 K32025 A/SA350 F1 K12822 A/SA182 F5 (501SS) K41545 A/SA182 F5a K42544 A/SA182 F9 K90941 A/SA182 F11 CL-1 K11597 A/SA182 F11 CL-2 K11572 A/SA182 F11 CL-3 K11572 A/SA182 F12 CL-1 K11562 A/SA182 F12 CL-1 K1564 A/SA182 F22 CL-1 K21590 A/SA182 F22 CL-1 K21590 A/SA182 ALUM 1100 A91100 B/SB247, B/SB361 ALUM 2014 A92014 B/SB247, AMS 4133/4134 ALUM 3003 A93003 B/SB247, B/SB361 ALUM 5083 A95083 B/SB247, B/SB361			No.)
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A350 LF-3 K32025 A/SA350 F1 K12822 A/SA182 F5 (501SS) K41545 A/SA182 F5a K42544 A/SA182 F9 K90941 A/SA182 F11 CL-1 K11597 A/SA182 F11 CL-2 K11572 A/SA182 F11 CL-3 K11572 A/SA182 F12 CL-1 K11562 A/SA182 F12 CL-1 K11564 A/SA182 F12 CL-2 K11564 A/SA182 F22 CL-1 K21590 A/SA182 F22 CL-3 K21590 A/SA182 ALUM 1100 A91100 B/SB247, B/SB361 ALUM 2014 A92014 B/SB247, AMS 4133/4134 ALUM 3003 A93003 B/SB247, B/SB361 ALUM 5083 A95083 B/SB247, B/SB361	A350 LF-1	K03009	A/SA350
F1 K12822 A/SA182 F5 (501SS) K41545 A/SA182 F5a K42544 A/SA182 F9 K90941 A/SA182 F11 CL-1 K11597 A/SA182 F11 CL-2 K11572 A/SA182 F11 CL-3 K11572 A/SA182 F12 CL-1 K11562 A/SA182 F12 CL-1 K11564 A/SA182 F12 CL-2 K11564 A/SA182 F22 CL-1 K21590 A/SA182 F22 CL-3 K21590 A/SA182 ALUM 1100 A91100 B/SB247, B/SB361 ALUM 2014 A92014 B/SB247, B/SB361 ALUM 3003 A93003 B/SB247, B/SB361 ALUM 5083 A95083 B/SB247, B/SB361		K03011	A/SA350
F5 (501SS) K41545 A/SA182 F5a K42544 A/SA182 F9 K90941 A/SA182 F11 CL-1 K11597 A/SA182 F11 CL-2 K11572 A/SA182 F11 CL-3 K11572 A/SA182 F12 CL-1 K11562 A/SA182 F12 CL-1 K1564 A/SA182 F12 CL-2 K11564 A/SA182 F22 CL-1 K21590 A/SA182 F22 CL-3 K21590 A/SA182 ALUM 1100 A91100 B/SB247, B/SB361 ALUM 2014 A92014 B/SB247, AMS 4133/4134 ALUM 3003 A93003 B/SB247, B/SB361 ALUM 5083 A95083 B/SB247, B/SB361	A350 LF-3	K32025	A/SA350
F5a K42544 A/SA182 F9 K90941 A/SA182 F11 CL-1 K11597 A/SA182 F11 CL-2 K11572 A/SA182 F11 CL-3 K11572 A/SA182 F12 CL-1 K11562 A/SA182 F12 CL-1 K11564 A/SA182 F22 CL-1 K21590 A/SA182 F22 CL-3 K21590 A/SA182 ALUM 1100 A91100 B/SB247, B/SB361 ALUM 2014 A92014 B/SB247, AMS 4133/4134 ALUM 3003 A93003 B/SB247, B/SB361 ALUM 5083 A95083 B/SB247, B/SB361	F1	K12822	A/SA182
F9 K90941 A/SA182 F11 CL-1 K11597 A/SA182 F11 CL-2 K11572 A/SA182 F11 CL-3 K11572 A/SA182 F12 CL-1 K11562 A/SA182 F12 CL-2 K11564 A/SA182 F22 CL-1 K21590 A/SA182 F22 CL-3 K21590 A/SA182 ALUM 1100 A91100 B/SB247, B/SB361 ALUM 2014 A92014 B/SB247, AMS 4133/4134 ALUM 3003 A93003 B/SB247, B/SB361 ALUM 5083 A95083 B/SB247, B/SB361	F5 (501SS)	K41545	A/SA182
F11 CL-1 K11597 A/SA182 F11 CL-2 K11572 A/SA182 F11 CL-3 K11572 A/SA182 F12 CL-1 K11562 A/SA182 F12 CL-2 K11564 A/SA182 F22 CL-1 K21590 A/SA182 F22 CL-3 K21590 A/SA182 ALUM 1100 A91100 B/SB247, B/SB361 ALUM 2014 A92014 B/SB247, AMS 4133/4134 ALUM 3003 A93003 B/SB247, B/SB361 ALUM 5083 A95083 B/SB247, B/SB361	F5a	K42544	A/SA182
F11 CL-2 K11572 A/SA182 F11 CL-3 K11572 A/SA182 F12 CL-1 K11562 A/SA182 F12 CL-2 K11564 A/SA182 F22 CL-1 K21590 A/SA182 F22 CL-3 K21590 A/SA182 ALUM 1100 A91100 B/SB247, B/SB361 ALUM 2014 A92014 B/SB247, AMS 4133/4134 ALUM 3003 A93003 B/SB247, B/SB361 ALUM 5083 A95083 B/SB247, B/SB361	F9	K90941	A/SA182
F11 CL-3 K11572 A/SA182 F12 CL-1 K11562 A/SA182 F12 CL-2 K11564 A/SA182 F22 CL-1 K21590 A/SA182 F22 CL-3 K21590 A/SA182 ALUM 1100 A91100 B/SB247, B/SB361 ALUM 2014 A92014 B/SB247, AMS 4133/4134 ALUM 3003 A93003 B/SB247, B/SB361 ALUM 5083 A95083 B/SB247, B/SB361	F11 CL-1	K11597	A/SA182
F12 CL-1 K11562 A/SA182 F12 CL-2 K11564 A/SA182 F22 CL-1 K21590 A/SA182 F22 CL-3 K21590 A/SA182 ALUM 1100 A91100 B/SB247, B/SB361 ALUM 2014 A92014 B/SB247, AMS 4133/4134 ALUM 3003 A93003 B/SB247, B/SB361 ALUM 5083 A95083 B/SB247, B/SB361	F11 CL-2	K11572	A/SA182
F12 CL-2 K11564 A/SA182 F22 CL-1 K21590 A/SA182 F22 CL-3 K21590 A/SA182 ALUM 1100 A91100 B/SB247, B/SB361 ALUM 2014 A92014 B/SB247, AMS 4133/4134 ALUM 3003 A93003 B/SB247, B/SB361 ALUM 5083 A95083 B/SB247, B/SB361	F11 CL-3	K11572	A/SA182
F22 CL-1 K21590 A/SA182 F22 CL-3 K21590 A/SA182 ALUM 1100 A91100 B/SB247, B/SB361 ALUM 2014 A92014 B/SB247, AMS 4133/4134 ALUM 3003 A93003 B/SB247, B/SB361 ALUM 5083 A95083 B/SB247, B/SB361	F12 CL-1	K11562	A/SA182
F22 CL-3 K21590 A/SA182 ALUM 1100 A91100 B/SB247, B/SB361 ALUM 2014 A92014 B/SB247, AMS 4133/4134 ALUM 3003 A93003 B/SB247, B/SB361 ALUM 5083 A95083 B/SB247, B/SB361	F12 CL-2	K11564	A/SA182
ALUM 1100 A91100 B/SB247, B/SB361 ALUM 2014 A92014 B/SB247, AMS 4133/4134 ALUM 3003 A93003 B/SB247, B/SB361 ALUM 5083 A95083 B/SB247, B/SB361	F22 CL-1	K21590	A/SA182
ALUM 2014 A92014 B/SB247, AMS 4133/4134 ALUM 3003 A93003 B/SB247, B/SB361 ALUM 5083 A95083 B/SB247, B/SB361	F22 CL-3	K21590	A/SA182
ALUM 3003 A93003 B/SB247, B/SB361 ALUM 5083 A95083 B/SB247, B/SB361	ALUM 1100	A91100	B/SB247, B/SB361
ALUM 5083 A95083 B/SB247, B/SB361	ALUM 2014	A92014	B/SB247, AMS 4133/4134
, , ,	ALUM 3003	A93003	B/SB247, B/SB361
ALLIM FORE ADEORS NONE	ALUM 5083	A95083	B/SB247, B/SB361
ALUM 5000 A95000 NONE	ALUM 5086	A95086	NONE



Certificate No.: 12210-2018-CE-USA-DNV Place and date: Vimercate 17 March, 2021 Revision No.: 01

ALUM 6061 A96061 B/SB247, B/SB361, QQ-A-367, AMS4127/4146 ALUM 7075 A97075 B/SB247, QQ-A-367, AMS4141/4311 70/30 CU-NI C71500 MIL-C-15726, MIL-C-24679 90/10 CU-NI C70600 MIL-C-15726, MIL-C-24679 EVER 655 C65500 B/SB283 (HOT PRESSED) NAVAL BRASS C46400 B/SB283 (HOT PRESSED) TITANIUM GR2 R50400 B/SB363, B/SB381 TITANIUM GR4 R50700 B/SB381 TITANIUM GR7 R52400 B/SB363, B/SB381 TITANIUM GR12 R53400 B/SB363, B/SB381 HAYNES HR160 HAYNES PS-6039-2 HAYNES 230 N06230 B/SB564, AMS 5891 HAYNES 556 R30556 HAYNES PS-6096-0 HAYNES 556 THANIES 556 R30556 HAYNES PS-6042-2 T-MO PLUS (F52) S32950 A/SA182 HASTELLOY-B N10001 B366 (REFERENCE) HASTELLOY-B2 N10665 B462, B366, B/SB564 HASTELLOY-C22 N06022 B462, B366, B/SB564 HASTELLOY-C276 N10276 B462, B366, B/SB564 HASTELLOY-C30 N06200 B462, B366, B/SB564 HASTELLOY-G3 N06985 B366 (REFERENCE) HASTELLOY-G3 N06985 B366 (REFERENCE) HASTELLOY-G3 N06985 B366 (REFERENCE) HASTELLOY-N N10003 B366 (REFERENCE) HASTELLOY-N N06002 B366 (REF), AMS 5754 NICKEL 200 N02200 B366, B/SB564, AMS 5755 ALLOY 400 N04400 B366, B/SB564, AMS 5665 ALLOY 600 N05600 R366, B/SB564, AMS 5665 ALLOY 600 N05600 R366, B/SB564, AMS 5665 ALLOY 601 N06601 AMS 5715 INCONEL 617			
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TITANIUM GR4 R50700 B/SB381 TITANIUM GR7 R52400 B/SB363, B/SB381 TITANIUM GR12 R53400 B/SB363, B/SB381 HAYNES HR160 HAYNES PS-6039-2 HAYNES 230 N06230 B/SB564, AMS 5891 HAYNES 242 HAYNES PS-6096-0 HAYNES 556 R30556 HAYNES PS-6042-2 7-MO PLUS (F52) S32950 A/SA182 HASTELLOY-B N10001 B366 (REFERENCE) HASTELLOY-B2 N10665 B462, B366, B/SB564 HASTELLOY-G4 N06455 B366 (REFERENCE) HASTELLOY-C22 N06022 B462, B366, B/SB564 HASTELLOY-C276 N10276 B462, B366, B/SB564 HASTELLOY-G3 N06000 B462, B366 (REFERENCE) HASTELLOY-G3 N06000 B462, B366 (REFERENCE) HASTELLOY-G3 N06000 B462, B366 (REFERENCE) HASTELLOY-G3 N06030 B462, B366 (REFERENCE) HASTELLOY-N N10003 B366 (REFERENCE) HASTELLOY-N N10003 B366 (REFERENCE) HASTELLOY-X N06002 B366, B/SB564 NICKEL 200 N02200 B366, B/SB564 NICKEL 201 N02201 B366 (REF) ALLOY 400 N04400 B366, B/SB564, AMS 5665 ALLOY 600 N06600 B366, B/SB564, AMS 5665 ALLOY 600 N06600 B366, B/SB564, AMS 5665 ALLOY 601 N06601 AMS 5715	NAVAL BRASS	C46400	B/SB283 (HOT PRESSED)
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TITANIUM GR12 R53400 B/SB363, B/SB381 HAYNES HR160 HAYNES PS-6039-2 HAYNES 230 N06230 B/SB564, AMS 5891 HAYNES 242 HAYNES PS-6096-0 HAYNES 556 R30556 HAYNES PS-6042-2 7-MO PLUS (F52) S32950 A/SA182 HASTELLOY-B N10001 B366 (REFERENCE) HASTELLOY-B2 N10665 B462, B366, B/SB564 HASTELLOY-B3 N10675 B462, B366, B/SB564 HASTELLOY-C4 N06455 B366 (REFERENCE) HASTELLOY-C22 N06022 B462, B366, B/SB564 HASTELLOY-C276 N10276 B462, B366, B/SB564, AMS 5750 HAST C-2000 N06200 B462, B564 HASTELLOY-G3 N06007 B366 (REFERENCE) HASTELLOY-G3 N06030 B462, B366 (REFERENCE) HASTELLOY-G30 N06030 B462, B366 (REFERENCE) HASTELLOY-N N10003 B366 (REFERENCE) HASTELLOY-X N06002 B366 (REFERENCE) HASTELLOY-X N06002 B366, B/SB564 NICKEL 200 N02200 B366, B/SB564 NICKEL 201 N02201 B366 (REF) ALLOY 400 N04400 B366, B/SB564, AMS 5665 ALLOY 600 N06600 B366, B/SB564, AMS 5665 ALLOY 601 N06601 AMS 5715	TITANIUM GR4	R50700	B/SB381
HAYNES HR160 HAYNES PS-6039-2 HAYNES 230 N06230 B/SB564, AMS 5891 HAYNES 242 HAYNES PS-6096-0 HAYNES 556 R30556 HAYNES PS-6042-2 7-MO PLUS (F52) S32950 A/SA182 HASTELLOY-B N10001 B366 (REFERENCE) HASTELLOY-B2 N10665 B462, B366, B/SB564 HASTELLOY-B3 N10675 B462, B366, B/SB564 HASTELLOY-C4 N06455 B366 (REFERENCE) HASTELLOY-C22 N06022 B462, B366, B/SB564 HASTELLOY-C276 N10276 B462, B366, B/SB564, AMS 5750 HAST C-2000 N06200 B462, B366 (REFERENCE) HASTELLOY-G N06007 B366 (REFERENCE) HASTELLOY-G3 N06985 B366 (REFERENCE) HASTELLOY-G30 N06030 B462, B366 (REFERENCE) HASTELLOY-N N10003 B366 (REFERENCE) HASTELLOY-N N10003 B366 (REFERENCE) HASTELLOY-X N06002 B366, B/SB564 NICKEL 200 N02200 B366, B/SB564 NICKEL 201 N02201 B366 (REF) ALLOY 400 N04400 B366, B/SB564, QQ-N-281, MIL-F-23509 ALLOY K500 N05500 QQ-N-286 ALLOY 600 N06601 AMS 5715	TITANIUM GR7	R52400	B/SB363, B/SB381
HAYNES 230 N06230 B/SB564, AMS 5891 HAYNES 242 HAYNES PS-6096-0 HAYNES 556 R30556 HAYNES PS-6042-2 7-MO PLUS (F52) S32950 A/SA182 HASTELLOY-B N10001 B366 (REFERENCE) HASTELLOY-B2 N10665 B462, B366, B/SB564 HASTELLOY-C4 N06455 B366 (REFERENCE) HASTELLOY-C22 N06022 B462, B366, B/SB564 HASTELLOY-C276 N10276 B462, B366, B/SB564 HASTELLOY-C376 N06200 B462, B366, B/SB564 HASTELLOY-G3 N06007 B366 (REFERENCE) HASTELLOY-G3 N06985 B366 (REFERENCE) HASTELLOY-G3 N06030 B462, B366 (REFERENCE) HASTELLOY-N N10003 B366 (REFERENCE) HASTELLOY-N N10003 B366 (REFERENCE) HASTELLOY-X N06002 B366, B/SB564 NICKEL 200 N02200 B366, B/SB564 NICKEL 201 N02201 B366 (REF) ALLOY 400 N04400 B366, B/SB564, QQ-N-281, MIL-F-23509 ALLOY K500 N05500 QQ-N-286 ALLOY 600 N06600 B366, B/SB564, AMS 5665 ALLOY 601 N06601 AMS 5715	TITANIUM GR12	R53400	B/SB363, B/SB381
HAYNES 242 HAYNES 556 R30556 HAYNES PS-6042-2 7-MO PLUS (F52) S32950 A/SA182 HASTELLOY-B N10001 B366 (REFERENCE) HASTELLOY-B2 N10665 B462, B366, B/SB564 HASTELLOY-C4 N06455 B366 (REFERENCE) HASTELLOY-C22 N06022 B462, B366, B/SB564 HASTELLOY-C276 HASTELLOY-C276 HASTELLOY-C30 N06200 B462, B366, B/SB564, AMS 5750 HASTELLOY-G HASTELLOY-G N06007 B366 (REFERENCE) HASTELLOY-G N06007 B366 (REFERENCE) HASTELLOY-G N06007 B366 (REFERENCE) HASTELLOY-G N06000 B462, B366 (REFERENCE) HASTELLOY-G N06000 B366 (REFERENCE) HASTELLOY-N N10003 B366 (REFERENCE) HASTELLOY-N N10003 B366 (REFERENCE) HASTELLOY-N N10003 B366 (REFERENCE) HASTELLOY-N N10003 B366 (REFERENCE) HASTELLOY-N N06002 B366, B/SB564 NICKEL 200 N02200 B366, B/SB564 NICKEL 201 N02201 B366 (REF) ALLOY 400 N04400 R366, B/SB564, QQ-N-281, MIL-F-23509 ALLOY K500 N05500 QQ-N-286 ALLOY 600 N06601 AMS 5715	HAYNES HR160		HAYNES PS-6039-2
HAYNES 556 R30556 HAYNES PS-6042-2 7-MO PLUS (F52) S32950 A/SA182 HASTELLOY-B N10001 B366 (REFERENCE) HASTELLOY-B2 N10665 B462, B366, B/SB564 HASTELLOY-B3 N10675 B462, B366, B/SB564 HASTELLOY-C4 N06455 B366 (REFERENCE) HASTELLOY-C22 N06022 B462, B366, B/SB564 HASTELLOY-C276 N10276 B462, B366, B/SB564, AMS 5750 HAST C-2000 N06200 B462, B366 (REFERENCE) HASTELLOY-G N06007 B366 (REFERENCE) HASTELLOY-G3 N06985 B366 (REFERENCE) HASTELLOY-G30 N06030 B462, B366 (REFERENCE) HASTELLOY-N N10003 B366 (REFERENCE) HASTELLOY-N N06002 B366 (REF), AMS 5754 NICKEL 200 N02200 B366 (REF) ALLOY 400 N04400 B366 (REF) ALLOY K500 N05500 QQ-N-286 ALLOY 600 N06601 AMS 5715	HAYNES 230	N06230	B/SB564, AMS 5891
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HASTELLOY-B N10001 B366 (REFERENCE) HASTELLOY-B2 N10665 B462, B366, B/SB564 HASTELLOY-B3 N10675 B462, B366, B/SB564 HASTELLOY-C4 N06455 B366 (REFERENCE) HASTELLOY-C22 N06022 B462, B366, B/SB564 HASTELLOY-C276 N10276 B462, B366, B/SB564, AMS 5750 HAST C-2000 N06200 B462, B564 HASTELLOY-G N06007 B366 (REFERENCE) HASTELLOY-G3 N06985 B366 (REFERENCE) HASTELLOY-G30 N06030 B462, B366 (REFERENCE) HASTELLOY-N N10003 B366 (REFERENCE) HASTELLOY-X N06002 B366 (REF), AMS 5754 NICKEL 200 N02200 B366, B/SB564 NICKEL 201 N02201 B366 (REF) ALLOY 400 N04400 B366, B/SB564, QQ-N-281, MIL-F-23509 ALLOY K500 N05500 QQ-N-286 ALLOY 600 N06600 B366, B/SB564, AMS 5665 ALLOY 601 N06601 AMS 5715	HAYNES 556	R30556	HAYNES PS-6042-2
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HASTELLOY-B3 N10675 B462, B366, B/SB564 HASTELLOY-C4 N06455 B366 (REFERENCE) HASTELLOY-C22 N06022 B462, B366, B/SB564 HASTELLOY-C276 N10276 B462, B366, B/SB564, AMS 5750 HAST C-2000 N06200 B462, B564 HASTELLOY-G N06007 B366 (REFERENCE) HASTELLOY-G3 N06985 B366 (REFERENCE) HASTELLOY-G30 N06030 B462, B366 (REFERENCE) HASTELLOY-N N10003 B366 (REFERENCE) HASTELLOY-X N06002 B366 (REF), AMS 5754 NICKEL 200 N02200 B366, B/SB564 NICKEL 201 N02201 B366 (REF) ALLOY 400 N04400 B366, B/SB564, QQ-N-281, MIL-F-23509 ALLOY K500 N05500 QQ-N-286 ALLOY 600 N06600 B366, B/SB564, AMS 5665 ALLOY 601 N06601 AMS 5715	HASTELLOY-B	N10001	B366 (REFERENCE)
HASTELLOY-C4 N06455 B366 (REFERENCE) HASTELLOY-C22 N06022 B462, B366, B/SB564 HASTELLOY-C276 N10276 B462, B366, B/SB564, AMS 5750 HAST C-2000 N06200 B462, B564 HASTELLOY-G N06007 B366 (REFERENCE) HASTELLOY-G3 N06985 B366 (REFERENCE) HASTELLOY-G30 N06030 B462, B366 (REFERENCE) HASTELLOY-N N10003 B366 (REFERENCE) HASTELLOY-X N06002 B366 (REF), AMS 5754 NICKEL 200 N02200 B366, B/SB564 NICKEL 201 N02201 B366 (REF) ALLOY 400 N04400 B366, B/SB564, QQ-N-281, MIL-F-23509 ALLOY K500 N05500 QQ-N-286 ALLOY 600 N06600 B366, B/SB564, AMS 5665 ALLOY 601 N06601 AMS 5715	HASTELLOY-B2	N10665	B462, B366, B/SB564
HASTELLOY-C22 N06022 B462, B366, B/SB564 HASTELLOY-C276 N10276 B462, B366, B/SB564, AMS 5750 HAST C-2000 N06200 B462, B564 HASTELLOY-G N06007 B366 (REFERENCE) HASTELLOY-G3 N06985 B366 (REFERENCE) HASTELLOY-G30 N06030 B462, B366 (REFERENCE) HASTELLOY-N N10003 B366 (REFERENCE) HASTELLOY-X N06002 B366 (REF), AMS 5754 NICKEL 200 N02200 B366, B/SB564 NICKEL 201 N02201 B366 (REF) ALLOY 400 N04400 B366, B/SB564, QQ-N-281, MIL-F-23509 ALLOY K500 N05500 QQ-N-286 ALLOY 600 N06600 B366, B/SB564, AMS 5665 ALLOY 601 N06601 AMS 5715	HASTELLOY-B3	N10675	B462, B366, B/SB564
HASTELLOY-C276 N10276 B462, B366, B/SB564, AMS 5750 HAST C-2000 N06200 B462, B564 HASTELLOY-G N06007 B366 (REFERENCE) HASTELLOY-G3 N06985 B366 (REFERENCE) HASTELLOY-G30 N06030 B462, B366 (REFERENCE) HASTELLOY-N N10003 B366 (REFERENCE) HASTELLOY-X N06002 B366 (REF), AMS 5754 NICKEL 200 N02200 B366, B/SB564 NICKEL 201 N02201 B366 (REF) ALLOY 400 N04400 B366, B/SB564, QQ-N-281, MIL-F-23509 ALLOY K500 N05500 QQ-N-286 ALLOY 600 N06600 B366, B/SB564, AMS 5665 ALLOY 601 N06601 AMS 5715	HASTELLOY-C4	N06455	B366 (REFERENCE)
HAST C-2000 N06200 B462, B564 HASTELLOY-G N06007 B366 (REFERENCE) HASTELLOY-G3 N06985 B366 (REFERENCE) HASTELLOY-N N10003 B462, B366 (REFERENCE) HASTELLOY-N N10003 B366 (REFERENCE) HASTELLOY-X N06002 B366 (REF), AMS 5754 NICKEL 200 N02200 B366, B/SB564 NICKEL 201 N02201 B366 (REF) ALLOY 400 N04400 B366, B/SB564, QQ-N-281, MIL-F-23509 ALLOY K500 N05500 QQ-N-286 ALLOY 600 N06600 B366, B/SB564, AMS 5665 ALLOY 601 N06601 AMS 5715	HASTELLOY-C22	N06022	B462, B366, B/SB564
HASTELLOY-G N06007 B366 (REFERENCE) HASTELLOY-G3 N06985 B366 (REFERENCE) HASTELLOY-G30 N06030 B462, B366 (REFERENCE) HASTELLOY-N N10003 B366 (REFERENCE) HASTELLOY-X N06002 B366 (REF), AMS 5754 NICKEL 200 N02200 B366, B/SB564 NICKEL 201 N02201 B366 (REF) ALLOY 400 N04400 B366, B/SB564, QQ-N-281, MIL-F-23509 ALLOY K500 N05500 QQ-N-286 ALLOY 600 N06600 B366, B/SB564, AMS 5665 ALLOY 601 N06601 AMS 5715	HASTELLOY-C276	N10276	B462, B366, B/SB564, AMS 5750
HASTELLOY-G3 N06985 B366 (REFERENCE) HASTELLOY-G30 N06030 B462, B366 (REFERENCE) HASTELLOY-N N10003 B366 (REFERENCE) HASTELLOY-X N06002 B366 (REF), AMS 5754 NICKEL 200 N02200 B366, B/SB564 NICKEL 201 N02201 B366 (REF) ALLOY 400 N04400 B366, B/SB564, QQ-N-281, MIL-F-23509 ALLOY K500 N05500 QQ-N-286 ALLOY 600 N06600 B366, B/SB564, AMS 5665 ALLOY 601 N06601 AMS 5715	HAST C-2000	N06200	B462, B564
HASTELLOY-G30 N06030 B462, B366 (REFERENCE) HASTELLOY-N N10003 B366 (REFERENCE) HASTELLOY-X N06002 B366 (REF), AMS 5754 NICKEL 200 N02200 B366, B/SB564 NICKEL 201 N02201 B366 (REF) ALLOY 400 N04400 B366, B/SB564, QQ-N-281, MIL-F-23509 ALLOY K500 N05500 QQ-N-286 ALLOY 600 N06600 B366, B/SB564, AMS 5665 ALLOY 601 N06601 AMS 5715	HASTELLOY-G	N06007	B366 (REFERENCE)
HASTELLOY-N N10003 B366 (REFERENCE) HASTELLOY-X N06002 B366 (REF), AMS 5754 NICKEL 200 N02200 B366, B/SB564 NICKEL 201 N02201 B366 (REF) ALLOY 400 N04400 B366, B/SB564, QQ-N-281, MIL-F-23509 ALLOY K500 N05500 QQ-N-286 ALLOY 600 N06600 B366, B/SB564, AMS 5665 ALLOY 601 N06601 AMS 5715	HASTELLOY-G3	N06985	B366 (REFERENCE)
HASTELLOY-X N06002 B366 (REF), AMS 5754 NICKEL 200 N02200 B366, B/SB564 NICKEL 201 N02201 B366 (REF) ALLOY 400 N04400 B366, B/SB564, QQ-N-281, MIL-F-23509 ALLOY K500 N05500 QQ-N-286 ALLOY 600 N06600 B366, B/SB564, AMS 5665 ALLOY 601 N06601 AMS 5715	HASTELLOY-G30	N06030	B462, B366 (REFERENCE)
NICKEL 200 N02200 B366, B/SB564 NICKEL 201 N02201 B366 (REF) ALLOY 400 N04400 B366, B/SB564, QQ-N-281, MIL-F-23509 ALLOY K500 N05500 QQ-N-286 ALLOY 600 N06600 B366, B/SB564, AMS 5665 ALLOY 601 N06601 AMS 5715	HASTELLOY-N	N10003	B366 (REFERENCE)
NICKEL 201 N02201 B366 (REF) ALLOY 400 N04400 B366, B/SB564, QQ-N-281, MIL-F-23509 ALLOY K500 N05500 QQ-N-286 ALLOY 600 N06600 B366, B/SB564, AMS 5665 ALLOY 601 N06601 AMS 5715	HASTELLOY-X	N06002	B366 (REF), AMS 5754
ALLOY 400 N04400 B366, B/SB564, QQ-N-281, MIL-F-23509 ALLOY K500 N05500 QQ-N-286 ALLOY 600 N06600 B366, B/SB564, AMS 5665 ALLOY 601 N06601 AMS 5715	NICKEL 200	N02200	B366, B/SB564
23509 ALLOY K500 N05500 QQ-N-286 ALLOY 600 N06600 B366, B/SB564, AMS 5665 ALLOY 601 N06601 AMS 5715	NICKEL 201	N02201	B366 (REF)
ALLOY K500 N05500 QQ-N-286 ALLOY 600 N06600 B366, B/SB564, AMS 5665 ALLOY 601 N06601 AMS 5715	ALLOY 400	N04400	B366, B/SB564, QQ-N-281, MIL-F-
ALLOY 600 N06600 B366, B/SB564, AMS 5665 ALLOY 601 N06601 AMS 5715			23509
ALLOY 601 N06601 AMS 5715	ALLOY K500	N05500	QQ-N-286
	ALLOY 600	N06600	B366, B/SB564, AMS 5665
INCONEL 617 N06617 B564	ALLOY 601	N06601	AMS 5715
	INCONEL 617	N06617	B564



Certificate No.: 12210-2018-CE-USA-DNV Place and date: Vimercate 17 March, 2021

Revision No.: 01

NO. OU

ALLOY 625	N06625	B366, B/SB564, AMS 5666
INCONEL 686	N06686	B564
INCONEL 690	N06690	B564
INCONEL 718	N07718	B/SB637, AMS 5662/5663/5664
INCONEL X750	N07750	B/SB637 (GR688), AMS 5542/5668
ALLOY 800	N08800	B366, B/SB564, AMS 5766
ALLOY 800H	N08810	B366, B/SB564
ALLOY 800HT	N08811	B366, B/SB564
ALLOY 825	N08825	B366, B/SB564
ALLOY 904L	N08904	NONE
ALLOY C20 (F20)	N08020	A182, B366, B/SB462
AL6XN (F58)	N08367	A182, B366, B/SB462, B/SB564
RA330	N08330	B366 (REF), AMS 5716
RA330 (W/ G.S.)	N08332	NONE
RA333	N06333	AMS 5717
25-6 MO	N08925	NONE
ULTIMET	R31233	NONE (REF: HAYNES MATERIAL)

Initial inspection on the production site has been carried out by DNV Business Assurance USA Houston, TX USA, ref. Assessment Report dated 2021-02-28.

Terms and conditions for the certificate

- in case of damages caused by defective products, Council Directive 85/374/EC, as amended, will apply;
- the system approval is valid only for the material types listed above. For other material types, an application for extension of the certificate must be sent to DNV Business Assurance, Houston, TX USA;
- periodical audits and unexpected visits will be held, in order to verify that the manufacturer duly fulfils the obligations arising out of the approved quality system;
- the manufacturer shall fulfil the obligations arising out of the quality system as approved and uphold it so that it remains adequate and efficient;
- the manufacturer must give information of any intended adjustments of the Quality System to DNV Business Assurance, Houston, TX USA, who will assess the changes and decide if the Statement remains valid;
- the manufacturer shall inform DNV Business Assurance, Houston, TX USA, of the intended schedule of production for materials.

The following may render this certificate invalid:

- changes in the quality system affecting production;
- periodical audits not held within the allowed time window.

End of Certificate