

Certificate

Quality-Assurance System for Manufacturer of Materials acc. to Directive 2014/68/EU

Certificate no.: 01 202 USA/Q-03 8928

Name and address of the
manufacturer:

Carpenter Technology Corporation
101 Bern Street
Reading PA 19601 - USA

Herewith we certify that the material manufacturer has established and applies a Quality Management System. The system was audited according to the European Directive 2014/68/EU, Annex I, Par. 4.3, with regard to the materials as listed in the scope of approval.

Tested acc. to
Directive 2014/68/EU:

**QM System acc. to EN 764-5, article 4.2 and
AD 2000-Merkblatt W0**

Audit report no.:

USA/Q-03 8928

Area of validity:

Manufacturer of austenitic steel and non-ferrous bars, forgings and wire products, see annex to certificate

Manufacturing plant:

Reading Operations
101 W Bern Street; Reading, PA 19601

Hartsville Operations
205 Talley Metals Lane; McBee, SC 29101

Orwigsburg Operations
116 Pinedale Industrial Road; Orwigsburg, PA 17961

Athens Operations
22110 Thomas L Hammons Rd.; Tanner, AL 35671

Valid until:

July 30, 2021

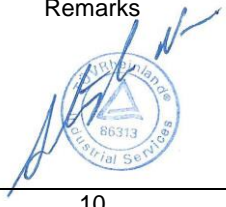
Cologne, April 4, 2019

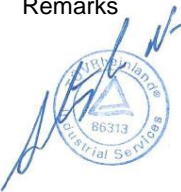
Dipl.-Ing. (FH) Roman Alexander Meyers


TÜV Rheinland Industrie Service GmbH
Notifizierte Stelle für Druckgeräte, Kennnummer: 0035
Am Grauen Stein, D-51105 Köln




E-008-D-Rev22

Scope according to		<input checked="" type="checkbox"/> Directive 2014/68/EU Annex I §4.3		<input type="checkbox"/> EN 764-4		<input checked="" type="checkbox"/> AD 2000-Merkblatt W0		<input type="checkbox"/> FPC, Regulation (EU) No. 305/2011(System 2+)				
Manufacturer				Work		Nationality		Date		Page No..		
Company Name: Carpenter Technology Corporation Location: 101 Bern Street, Reading, PA 19601, USA				-Same As Manufacturer -116 Pinedale Ind. Rd., Orwigsburg, PA 17961 -205 Talley Metals Ln, McBee, SC 29101 -22110 Thomas L Hammons Rd, Tanner, AL 35671		USA		19-Mar-2019		1		
								Rev.: 17		of : 4		
Cur	Materials-term Materials-No.	Material Specification	Delivery Cond.	Article Type of Product	Dimensions				Weight max 1=t / 2=kg ↓ result	Technical Specifications Requirements Technical Regulations	Remarks 	
					Thick-ness mm		Ø mm					
					from	Up to	from	Up to				
1	2	3	4	5	6a	6b	7a	7b	8a	8b	9	
1) Materials according to international standards (e. g. ASTM, ASME, IBR etc.) The use of the materials according to DGR 2014/68/EU is bound to the publication of Harmonized European Standards or to the qualification by a European material approval or to the particular material appraisal. With that the manufacturing reliability for equivalent material grades according to other standards (e.g. BS, AFNOR, ASME) is proved. The requirements and limits of the applicable code respectively the PED must be observed for the use of material grades listed in column 2 to 4.												
01	<u>Reading & Orwigsburg</u> 316,316L,316N,304,304L,304N	ASTM / ASME A/SA276	A	Bars	3.2	83	3.2	83	-	-	ASTM/ASME	a
02	304, 304N, 316, 316N	ASTM / ASME A/SA276	SH	Bars	3.2	83	3.2	83	-	-	ASTM/ASME	a
03	316,316L,316N,304,304L,304N	ASTM / ASME A/SA479	A	Bars	3.2	250	3.2	250	-	-	ASTM/ASME	a
04	304, 304L, 316, 316L	ASTM / ASME A/SA 479	SH	Bars	3.2	250	3.2	250	-	-	ASTM/ASME	a
05	F316, F316L, F304, F304L	ASTM / ASME A/SA182 (Chem. Only)	AT	Bars	3.2	83	3.2	83	-	-	ASTM/ASME	a*
06	Grade 660	ASTM / ASME A/SA453	AT	Bars	3.2	250	3.2	250	-	-	ASTM/ASME	a
07	N04400	ASTM / ASME B/SB164	SR	Bars	3.2	250	3.2	250	-	-	ASTM/ASME	a
08	Alloy N10276	ASTM / ASME B/SB574	A	Bars	3.2	250	3.2	250	-	-	ASTM/ASME	a
09	N07750	ASTM / ASME B/SB637	A	Bars	3.2	250	3.2	250	-	-	ASTM/ASME	a
10	N06625	ASTM / ASME B/SB446	A	Bars	3.2	255	3.2	255	-	-	ASTM/ASME	a
11	N08020	ASTM / ASME B/SB473	A	Bars	3.2	255	3.2	255	-	-	ASTM/ASME	a
Results		+AT = solution annealed +NT = normalized and tempered a = PMA for the use in pressure equipment +AF = As Forged +QT = quenched and tempered in Directive 2014/68/EU neccessary +M = thermo mechanical treated +A = annealed * = Equipment Manufacturer to carry out +N = normalized or normalizing formed +SR = stress relieved EN 10204 3.2/3.1.C +SH = Strain Hardening										

Scope according to		<input checked="" type="checkbox"/> Directive 2014/68/EU Annex I §4.3		<input type="checkbox"/> EN 764-4		<input checked="" type="checkbox"/> AD2000-Merkblatt W0		<input type="checkbox"/> FPC, Regulation (EU) No. 305/2011(System 2+)				
Manufacturer				Work				Nationality	Date	Page No..		
Company Name: Carpenter Technology Corporation Location: 101 Bern Street, Reading, PA 19601, USA				-Same As Manufacturer -116 Pinedale Ind. Rd., Orwigsburg, PA 17961 -205 Talley Metals Ln, McBee, SC 29101 -22110 Thomas L Hammons Rd. Tanner, AL 35671				USA	19-Mar-2019	2	TÜV Rheinland Industrie Service GmbH	
								Rev.: 17	of : 4			
Cur -	Materials-term Materials-No.	Material Specification	Delivery Cond.	Article Type of Product	Dimensions				Weight max 1=t / 2=kg ↓ result	Technical Specifications Requirements Technical Regulations	Remarks 	
					Thick- ness mm	Ø mm	from	Up to				from
1	2	3	4	5	6a	6b	7a	7b	8a	8b	9	10
1) Materials according to international standards (e. g. ASTM, ASME, IBR etc.)												
The use of the materials according to DGR 2014/68/EU is bound to the publication of Harmonized European Standards or to the qualification by a European material approval or to the particular material appraisal. With that the manufacturing reliability for equivalent material grades according to other standards (e.g. BS, AFNOR, ASME) is proved. The requirements and limits of the applicable code respectively the PED must be observed for the use of material grades listed in column 2 to 4.												
12	<u>McBee</u> 316,316L,316N,304,304L,304N	ASTM / ASME A/SA 276	A	Bars	22	38	22	76	-	-	ASTM/ASME	a
13	304, 304N, 316, 316N	ASTM / ASME A/SA 276	SH	Bars	22	38	22	76	-	-	ASTM/ASME	a
14	316,316L,316N,304,304L,304N	ASTM / ASME A/SA 479	A	Bars	22	38	22	76	-	-	ASTM/ASME	a
15	304, 304L, 316, 316L	ASTM / ASME A/SA 479	SH	Bars	22	38	22	76	-	-	ASTM/ASME	a
			A	Wire	-	-	13	38	-	-	ASTM/ASME	a
16	F316, F316L, F304, F304L	ASTM / ASME A/SA 182	AT	Bars	22	38	22	76	-	-	ASTM/ASME	a*
		(Chemistry Only)	AT	Wire	-	-	13	38	-	-	ASTM/ASME	a*
17	<u>Athens</u> 316/316L	ASTM / ASME A/SA 484	AF	Bar	-	-	153	180	-	-	ASTM/ASME	a*
		(Excluding Mechanicals)										
18	<u>All Facilities (except Athens)</u> UNS S17400 (Type 630)	ASTM / ASME A/SA 564	AT/A/SH	Bars	-	-	3.2	102	-	-	ASTM/ASME	a
	17-4 PH (H900, H1150)		AT/A/SH	Wire	-	-	9.1	38	-	-	ASTM/ASME	a
Results		<div style="display: flex; justify-content: space-between;"> <div> +AT = solution annealed +AF = As Forged +M = thermo mechanical treated +N = normalized or normalizing formed +SH = Strain Hardening </div> <div> +NT = normalized and tempered +QT = quenched and tempered +A = annealed +SR = stress relieved </div> <div> a = PMA for the use in pressure equipment in Directive 2014/68/EU necessary * = Equipment Manufacturer to carry out EN 10204 3.2/3.1.C </div> </div>										

Scope according to		<input checked="" type="checkbox"/> Directive 2014/68/EU Annex I §4.3		<input type="checkbox"/> EN 764-4		<input checked="" type="checkbox"/> AD 2000-Merkblatt W0		<input type="checkbox"/> FPC, Regulation (EU) No. 305/2011(System 2+)				
Manufacturer				Work		Nationality	Date	Page No..				
Company Name: Carpenter Technology Corporation Location: 101 Bern Street, Reading, PA 19601, USA				-Same As Manufacturer -116 Pinedale Ind. Rd., Orwigsburg, PA 17961 -205 Talley Metals Ln, McBee, SC 29101 -22110 Thomas L Hammons Rd. Tanner, AL 35671		USA	19-Mar-2019 Rev.: 17	3 of : 4	TÜV Rheinland Industrie Service GmbH			
Cur -	Materials-term Materials-No.	Material Specification	Delivery Cond.	Article Type of Product	Dimensions Thick- ness mm Ø mm		Weight max 1=t / 2=kg ↓ res ult	Technical Specifications Requirements Technical Regulations	Remarks 			
1	2	3	4	5	6a	6b	7a	7b	8a	8b	9	10
2) Materials according to AD 2000												
The use of the materials according to DGR 2014/68/EU is bound to the publication of Harmonized European Standards or to the qualification by a European material approval or to the particular material appraisal. With that the manufacturing reliability for equivalent material grades according to other standards (e.g. BS, AFNOR, ASME) is proved. The requirements and limits of the applicable code respectively the PED must be observed for the use of material grades listed in column 2 to 4.												
01	<u>Reading & Orwigsburg</u> 1.4301, 1.4306, 1.4401, 1.4404	EN 10272	A	Bar	3.2	250	2.5	250	-	-	AD2000-W0, W2, W10	*
02	1.4303	EN 10269	A	Wire	-	-	2.5	32	-	-	AD2000-W0, W2, W10	
01	<u>Athens</u> 1.4401, 1.4404	EN 10272 (Excluded Mechanical)	AF	Bar	-	-	153	180	-	-	AD2000-W0, W2	
Results		+AT = solution annealed +AF = As Forged +M = thermo mechanical treated +N = normalized or normalizing formed +SH = Strain Hardening			+NT = normalized and tempered +QT = quenched and tempered +A = annealed +SR = stress relieved			a = PMA for use in pressure equipment In directive 2014/68/EU necessary * = Equipment Manufacturer to carry out EN 10204 3.2/3.1c				

Scope according to		<input checked="" type="checkbox"/> Directive 2014/68/EU Annex I §4.3		<input type="checkbox"/> EN 764-4		<input checked="" type="checkbox"/> AD 2000-Merkblatt W0		<input type="checkbox"/> FPC, Regulation (EU) No. 305/2011(System 2+)				
Manufacturer				Work				Nationality	Date	Page No..		
Company Name: Carpenter Technology Corporation Location: 101 Bern Street, Reading, PA 19601, USA				-Same As Manufacturer -116 Pinedale Ind. Rd., Orwigsburg, PA 17961 -205 Talley Metals Ln, McBee, SC 29101				USA	19-Mar-2019	4	TÜV Rheinland Industrie Service GmbH	
								Rev.: 17	of : 4			
Cur -	Materials-term Materials-No.	Material Specification	Delivery Cond.	Article Type of Product	Dimensions				Weight max		Technical Specifications Requirements Technical Regulations	Remarks 
					Thick- ness mm		Ø mm		1=t / 2=kg ↓ result			
					from	Up to	from	Up to				
1	2	3	4	5	6a	6b	7a	7b	8a	8b	9	10
1) Materials according to EN Standards												
The use of the materials according to DGR 2014/68/EU is bound to the publication of Harmonized European Standards or to the qualification by a European material approval or to the particular material appraisal. With that the manufacturing reliability for equivalent material grades according to other standards (e.g. BS, AFNOR, ASME) is proved. The requirements and limits of the applicable code respectively the PED must be observed for the use of material grades listed in column 2 to 4.												
01	<u>Reading & Orwigsburg</u> 1.4301, 1.4306, 1.4401, 1.4404	EN 10088-3	AT	Bar	3.2	250	3.2	250	-	-	EN	a
02	1.4303	EN 10088-3	AT	Bar	3.2	250	3.2	250	-	-	EN	a
03	<u>McBee</u> 1.4401, 1.4401	EN 10088-3	AT	Bar	-	-	22	76	-	-	EN	a
Results		+AT = solution annealed +AF = As Forged +M = thermo mechanical treated +N = normalized or normalizing formed +SH = Strain Hardening				+NT = normalized and tempered +QT = quenched and tempered +A = annealed +SR = stress relieved				a=PMA for the use in pressure equipment in Directive 2014/68/EU necessary		