

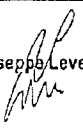

 <b>ASOFORGE</b> Steeled for the future		<b>INSPECTION CERTIFICATE /</b> <b>Werkzeugnis Acc. To EN 10204 - ISO 9001</b>		<b>MADE IN ITALY mod.</b> <b>Q.P9.02.b - rev.6</b>	
ASOForge srl, Via Verginello 29/31 Castegnato BS(ITALY) - Tel. 030/6841011 Fax. 030/6841012		Certificate Nr./Zeugnis Nr. 1999/2021		Rev. 0	
<b>CUSTOMER</b> Cliente / Kunde					
Client Order Nr. Ordine Nr. / Bestell Nr.		P06235			
<b>ASO ORDER</b> Ordine Aso / Auftrags Nr.		8210473			
<b>REFERENCE STANDARDS</b> Standard di Riferimento / Referenzstandards		SS1 rev. 5.3 - 2016 ed. / ASTM A276, A479, A182/SA 182, ASTM A262 Practice E, A193, ASME SA479 - SA193 / AMS-QQ-S-763B / AMS 5653 / AMS 5648 / NACE MR0175-ISO 15156, NACE MR0103, ASTM A320/A320M, ASME SA320/SA320M			
Client Item / Artikel Nr.		Heat N° / Schmelze		STEEL GRADE / Stahl	
19"		117896		F316 / F316L - UNS S31600 - UNS S31603	
Melting process / Schmelzprozess		Steel produced by electric furnace and refine in AOD / Elektrolichtbogenofen und Ausbau in der AOD-Konverter			
<b>Chemical Analysis / Chemische Analyse</b>					

 <b>ASONEXT</b> Steeled for the future		<b>CERTIFICATO DI ANALISI CHIMICA E METALLOGRAFICA</b> Chemical analysis and metallographical certificate. Certificat d'analyse chimique et metallographique. Deurkundung über die chemische Analyse und metallographische		Azienda con sistema di gestione certificato secondo ISO 9001; ISO 14001; ISO 45001.		Manuale QAS Rev.: 0 Data: 01/10/2020													
<b>CLIENTE:</b> ASOFORGE S.R.L. UNIPERSONALE <small>Purchaser / Client / Besteller</small>		<b>ORDINE N.:</b> 8015085 <small>Purchase order no. / Commande no. / Bestellnr.</small>		<b>ORDINE ASO N.:</b> 9211184 <small>ASO order confirmation no. / ASO order no. / Auftragsbestätigung</small>															
<b>DOCUMENTO DI CONTROLLO TIPO</b> <input checked="" type="checkbox"/> 3.1 <input type="checkbox"/> 3.2 <input type="checkbox"/> 2.2 (EN 10204) <small>Document Control Type / Type de document de contrôle / Typ control document</small>		<b>STATO DI FORNITURA:</b> <input checked="" type="checkbox"/> LINGOTTI GREZZI <small>Delivery supply condition / Etat de livraison / Lieferbedingung</small>																	
<b>ACCIAIO PRODOTTO AL FORNO ELETTRICO ED AFFINATO IN AOD - Mod produced by electric furnace and refine in AOD - Acier produit au four électrique et affiné en AOD - Elektrolichtbogenofen und Ausbau in der AOD-Konverter</b>																			
<b>COLATA N.:</b> 117896 <small>Pour / Casting / Schmelze</small>		<b>ACCIAIO 316L</b> <small>Steel / Acier / Stahl</small>		<b>SPECIFICA NORMA:</b> ASTM A182 - 1.4404 - SS1 <small>Detailed list of specific / type of steel name / Valeurs spécifiques / Stahl</small>															
<b>PROFILO H1000</b> <small>Size / Section / Profil</small>		<b>PEZZI n.:</b> 7 <small>Parts number / Nombre de pièces / Anzahl Stücke</small>		<input type="checkbox"/> ACCIAIO DEGASATO SOTTOVUOTO <small>De-gassed steel / Acier degazé / Vakuumstahl</small>		<input checked="" type="checkbox"/> ACCIAIO NON DEGASATO <small>Not de-gassed steel / Acier non degazé / Nicht Vakuumstahl</small>													
<b>ANALISI CHIMICA - Chemical analysis - Analyse chimique - Chemische Zusammensetzung</b>																			
C	Mn	Si	P	S	Cu	Cr	Ni	Mo	Sn	Al	V	Nb	Ti	B	As	Sb	Co	Ceq	
0.017	1.73	0.45	0.033	0.026	0.41	16.82	10.12	2.10	0.009	0.005	0.067	0.029	0.002	0.0029	0.006	0.0026	0.143		
<b>ANALISI GAS</b> <small>Gas analysis / Analyse des gaz / Gasanalyse</small>		<input checked="" type="checkbox"/> HIDROGENO <small>p.p.m. hydrogen</small>	<input checked="" type="checkbox"/> OSSIGENO <small>p.p.m. oxygen</small>	<input checked="" type="checkbox"/> AZOTO <small>p.p.m. nitrogen</small>															
				693		0.0006	0.061												
<b>TEMPERABILITA' JOMINY</b> UNI EN ISO 642		Temp. Tempéra C	mm	1,5	3	5	7	9	10	11	13	15	20	25	30	35	40	45	50
			HRC																
<b>GRANO AUSTENITICO:</b> SCALA <small>acoustic grain size elect. grain size / scale for reading elect. grain size</small>		Durezza (in petti) HB1000	<b>INCLUSIONI NON METALLICHE:</b> SCALA <small>non metallic inclusion check / Inclusions non métalliques / Prüfung auf eingeschlossene Einschlüsse</small>																
The content is correct and accurate and all test results are in compliance with the material specification		<b>NOTE:</b> <small>remark / note / bemerking</small>		- R590 x 2 - UNS 31600/UNS 31603 - No wetting repair has been performed. The material is verified to be free of radioactive contaminations. Radioactivity Ca(60-90) Bq/g.				<b>RESPONSABILE GARANZIA DI QUALITA'</b> <small>Qualty Manager - Responsable service Qualité - Qualitätsmanager</small> DANIELE RINALDI 				<b>STABILIMENTO DI</b> <small>Plant / Usine / Fabrik</small> Ospiateello Italy 16-07-2021 Certificato 1999 / 2021 <small>Certificate / Certificat / Zertifikat</small> Zeri & Le Revisione / <small>Revisión / Revisão / Revision</small> 0							

Statement confirming that all the operation have been performed in accordance with the Quality manual Rev. 00 dated 01/10/2020 / Erklärung, die bestätigt, dass alle Operationen in Übereinstimmung mit dem Quality manual Rev. 00 dated 01/10/2020 durchgeführt wurden (ASO-Qualitäts-Handbuch)		
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 <b>ASOForge</b> <small>Steel for the future</small>	<b>INSPECTION CERTIFICATE /</b> <b>Werkszeugnis Acc. To EN 10204 - ISO 9001</b>		<b>MADE IN ITALY</b> mod. Q.P9.02.b - rev.6
			<b>CERT. TYPE 3.1</b>
ASOForge srl, Via Verginello 29/31 Castegnato BS(ITALY) - Tel. 030/6841011 Fax. 030/6841012		Certificate Nr./Zeugnis Nr. 1999/2021	Rev. 0
<b>CUSTOMER</b> Cliente / Kunde		S	
<b>Client Order Nr.</b> Ordine Nr. / Bestell Nr.		P06235	
<b>ASO ORDER</b> Ordine Aso / Auftrags Nr.		8210473	
<b>REFERENCE STANDARDS</b> Standard di Riferimento / Referenzstandards		SS1 rev. 5.3 - 2016 ed. / ASTM A276, A479, A182/SA 182, ASTM A262 Practice E, A193, ASME SA479 - SA193 / AMS-QQ-S-753B / AMS 5653 / AMS 5648 / NACE MR0175-ISO 15155, NACE MR0103, ASTM A320/A320M, ASME SA320/SA320M	
<b>Client Item / Artikel Nr.</b>	<b>Heat N° / Schmelze</b>	<b>STEEL GRADE / Stahl</b>	<b>CONDITION Trattamento /          Waermebehandlung</b>
19"	117896	F316 / F316L - UNS S31600 - UNS S31603	Solution Annealing

**VDH: Visual, Dimensional and Surface Hardness / Visibilitaet, Dimension Oberflaechen Haerte**

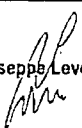
Bar Nr	Nominal section ["]	Real section ["]	Length[mm]	Weight [Kg]	Forging Reduction	Hardness test (HB)
						140 - 241
20	19"	19,19"	5014	7460	3,30:1	178 - 180
21	19"	19,17"	5007	7440	3,30:1	178 - 180

Material must be of European origin. According to ISO 9001:2008 - ISO 9002 - 1987 EN 29002 1987 Approval.  
**STAINLESS STEEL FORGED ROUND BARS**


No Welding Performed, Mercury Free, Radioactivity Co.60 < 0,1 Bq/g. VISUAL INSPECTION: Satisfactory. Free from cracks, 100% anti-mix-test, free from toxic contamination. Mercury free. According to NACE MR0103.

<b>Ingot type / Blockart</b> Polygonal 11000	<b>Country of origin / Ursprungsland</b> ITALY
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<b>Material description / Materialbeschreibung</b>	<b>Forged steel bars</b>
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 <b>ASOForge</b> <small>steels for the future</small>	<b>INSPECTION CERTIFICATE /</b> <b>Werkszeugnis Acc. To EN 10204 - ISO 9001</b>	<b>MADE IN ITALY</b> mod. Q.P9.02.b - rev.6
		<b>CERT. TYPE 3.1</b>

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<b>CUSTOMER</b>		
<b>Cliente / Kunde</b>		
<b>Client Order Nr.</b>		
<b>Ordine Nr. / Bestell Nr.</b>		P06235
<b>ASO ORDER</b>		
<b>Ordine Aso / Auftrags Nr.</b>		8210473
<b>REFERENCE STANDARDS</b>		
<b>Standard di Riferimento /</b>		
<b>Referenzstandards</b>		SS1 rev. 5.3 - 2016 ed. / ASTM A276, A479, A182/SA 182, ASTM A262 Practice E, A193, ASME SA479 - SA193 / AMS-QQ-S-763B / AMS 5653 / AMS 5648 / NACE MR0175-ISO 15156, NACE MR0103, ASTM A320/A320M, ASME SA320/SA320M

<b>Client Item / Artikel Nr.</b>	<b>Heat N° / Schmelze</b>	<b>STEEL GRADE / Stahl</b>	<b>CONDITION: Trattamento /</b>
			<b>Waermebehandlung</b>
19"	117896	F316 / F316L - UNS S31600 - UNS S31603	Solution Annealing

**Heat Treatment / Waermebehandlung**

<b>Lot -Nr. / Fertigungsauftr. Nr.</b>	Heating Temperature 1050°C, holding time 8h:40min. Cooling in water
TT006614	

Furnace temperature monitoring by thermocouple: method A (atmosphere). Furnace calibration according to API 6A Annex M

**Mechanical Properties / Mechanische Eigenschaften**

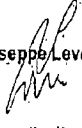
Mechanical testing on a p/olongation from the forged bar after quality heat treatment:

<b>Test One - bar size</b>		19"					
<b>Tensile test / Zugversuch</b>		Lot nr. / Fertigungsauftr. Nr.				<b>Direction and position</b>	<b>Transversal - D/4 B.S.</b>
	<b>Temperature</b>	<b>Rm [Mpa]</b>	<b>Rp 0,2% [Mpa]</b>	<b>A2* [%]</b>	<b>Z [%]</b>		
Required	20°C	> 485	> 205	> 30	> 50		
Obtained		521	222	58	71		


<b>Impact test /</b>		Lot nr. / Fertigungsauftr. Nr.				<b>Direction and position</b>	<b>Transversal - D/4 B.S.</b>
<b>Schlagbiegeversuch</b>							
	<b>Temperature</b>	<b>KV [joule]</b>	<b>KV Av. [joule]</b>			<b>Hard. / HBW</b>	
Required	20°C	inf.	inf.			inf.	
Obtained		160 - 166 - 155	160,33			158 - 156 - 156	

**Remarks / Notes / Anmerkungen:**

Mechanical test according to ASTM A182

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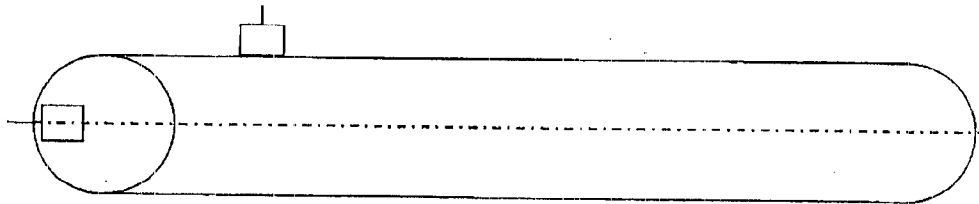
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 <b>ASOForge</b> Steeled for the future		<b>INSPECTION CERTIFICATE /</b> <b>Werkszeugnis Acc. To EN 10204 - ISO 9001</b>		<b>MADE IN ITALY mod.</b> <b>Q.P9.02.b - rev.6</b>	
ASOForge srl, Via Verginello, 29/31 Castegnato BS(ITALY) - Tel. 030/6841011 Fax. 030/6841012			Certificate Nr./Zeugnis Nr. 1999/2021		Rev. 0
<b>CUSTOMER</b> <b>Cliente / Kunde</b>					
<b>Client Order Nr.</b> <b>Ordine Nr. / Bestell Nr.</b>		P06235			
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<b>REFERENCE STANDARDS</b> <b>Standard di Riferimento /</b> <b>Referenzstandards</b>		SS1 rev. 5.3 - 2016 ed. / ASTM A276, A479, A182/SA 182, ASTM A262 Practice E, A193, ASME SA479 - SA193 / AMS-QQ-S-763B / AMS 5653 / AMS 5648 / NACE MR0175-ISO 15156, NACE MR0103, ASTM A320/A320M, ASME SA320/SA320M			
<b>Client Item / Artikel Nr.</b>		<b>Heat N° / Schmelze</b>		<b>STEEL GRADE / Stahl</b>	
19"		117896		<b>CONDITION Trattamento /</b> <b>Waermebehandlung</b> Solution Annealing	

**Ultrasonic Inspection / Ultraschallprüfung**

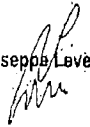
Reference Standard / Referenzstandards	ASTM A388 (6,4mm F.B.H. max)		
Test method / Ausführungsverfahren	DGS / AVG	Instrument / Ausrüstung	USN80
Test technique / Prüftechnik	pulse - echo - method	Reference block / Testkörper	V1
Transducers / Prüfkopftyp	B1S	Test frequency / Prüffrequenz	1 Mhz
Surface condition / Oberflächlicher zustab	Machined	Testing scope / Prüfumfang	100% of the surface
Sensitivity / Empfindlichkeit	6,4mm F.B.H.	Coupling / Kupplung	Couplant 333
Qualification operator / Prüfer Controlleur	UT 2 level - EN ISO 9712	Test result / Beachtung	Conform to : ASTM A388
Indications detect / Hinweise gefunden	Bars nr 20 & 21, No indications detect		

Bar Sketch - Stabform



**The content is correct and accurate, all test results are in compliance with the material specification.**

**"Vedi Allegato Certificato di Analisi chimica e metallografica No 1999/2021" / "See annex Certificate of chemical analysis and metallographic No 1999/2021".**

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