

ELV

Steel components certificates

		Micrografia 400X in Area con 10 Decadeni esg. (vedi Normativa) 10-105-10218-0101 Fax: +39-02-9148-840 www.marcegaglia.com		Type Inspection Certificate 3.1 EN 10204		THIS DOCUMENT WAS PRODUCED AUTOMATICALLY AND IS VALID WITHOUT SIGNATURE		Number 10518996409		Issued On 16/11/2018		
Customer PROMETALBAKLI S.A. PO BOX 10 19018 THESI LOUISA-MAGOUA ATTI EL				Code: 000092538		Consignee PROMETALBAKLI S.A. THESI XSYPROPIGADO 19600 MANDRA ATTIKIS EL		Delivery N° 8305823459 Of 16/11/2018 Delivery note n° 1005013345		Quality Control Q.M.D. I.O.M. S.Toccano Plant Of Falli		Pages 3/27
Material 59002667 Description TXXT001 26,9x2x6000 TP304 HF Z				Test specification: EN10296-2 Stainless steel grade: TP 304 1.4301 X5CrNi18-10 Tolerances: ISO 1127 D3-T3 / ASTM A664				Welding process HIGH FREQUENCY INDUCTION WELDING		Order No 1181125187/50 Part Number		Client Order 13104-2018 Client Date 8/11/2018
Item	Identification Nr	Heat	Quantity MTL	Quantity KG	Quantity PZZ	Delivery conditions	Remarks BRUSHED					
1	18K1005826	0530995	624	738	104							
2	18K1005826	H82055	138	162	23							
WE CERTIFY THAT THE ABOVE MENTIONED PRODUCTS COMPLY WITH THE TERMS OF ORDER CONTRACT AND THE STANDARDS REGULATED IN THE PRESENT TEST CERTIFICATE												
Identification Nr	Chemical Type	C (%)	Si (%)	Mn (%)	P (%)	S (%)	N (%)	Cr (%)	Ni (%)			
18K1005826	RAW MATERIAL	.026	.320	1.680	.0300	.0010	.0650	18.000	8.070			
18K1005826	RAW MATERIAL	.037	.395	1.092	.0278	.0029	.0518	18.245	8.100			
Identification Nr	Type of mechanical test	R <sub>b</sub> 0.2 [MPa]	R <sub>b</sub> 1.0 [MPa]	R <sub>m</sub> [MPa]	A5 (%)	MARCEGAGLIA SPECIALTIES FORSLIMPOLOJ PLANT SYSTEM CERTIFICATION QUALITY SYSTEM CERTIFIED ACCORDING TO EN 9001:2008 AND ISO 9001:2008 AND ISO 3834-2:2008 AND A SAFETY SYSTEM CERTIFIED ACCORDING TO CHASAC 18001:2007 AND AN ENVIRONMENTAL SYSTEM CERTIFIED ACCORDING TO ISO 14001:2004. MARCEGAGLIA SPECIALTIES FORSLIMPOLOJ PRODUCT CERTIFICATIONS DVS09 ACCORDING TO DIN EN ISO 9001:2008 AND ISO 14001:2004. TUBES DIA FROM 15.00 TO 108.00MM AND GRADE 1.4521 FROM 15.00 TO 54.00MM. TUV A2000 WDW10 AND PED ANEX I, PARAGRAPH 4.3 LASER AND TIG WELDED TUBES STAINLESS STEEL GRADE 1.4301, 1.4306, 1.4307, 1.4401, 1.4404, 1.4541, 1.4571, 1.4565, 1.4538 THICKNESS FROM 0.50 TO 4.00MM AND DIAMETRS FROM 0.50 TO 283.00 MM. EHSSS FOR DARY TUBES TXXT015, TYPD - EUROPEAN DIRECTIVE 1935/2004 FOR DARY TUBES TXXT014, TXXT015.						
18K1005826	TUBE	283	313	622	50.6							
18K1005826	TUBE	276	307	605	51.9							
NON DESTRUCTIVE TESTS ANTIMONY TEST ACCORDING TO EN 10088-2:2005 AND EN 10296-2:2005: CONFORM VISUAL INSPECTION AND DIMENSIONAL CONTROLS: CONFORM						DESTRUCTIVE TESTS DRIFT EXPANDING TEST ACCORDING TO EN ISO 8489:2005: CONFORM FLATTENING TEST ACCORDING TO EN ISO 8482:2004: CONFORM TENSILE TEST ACCORDING TO EN ISO 6892-1:2009						
Marking												
Remarks: THE CHEMICAL COMPOSITION REFERS TO THE RAW MATERIAL USED ACCORDING TO EN 10088, EN 10296-2 AND EN 10296-2												

		Marcegaglia 4000 - 14 Strada del Lavoro - 10100 Tel. +39 - 075 485 11 Fax. +39 - 075 485 600 www.marcegaglia.com		Type Inspection Certificate 3.1 EN 10204 THIS DOCUMENT WAS PRODUCED AUTOMATICALLY AND IS VALID WITHOUT SIGNATURE		Number 1051849001 Issued On 03/08/2018																									
Customer PROMETALBAKLI S.A. PO BOX 10 19018 THESI LOUISA-MAGOULA ATTI EL				Code: 0000082538		Consignee PROMETALBAKLI S.A. THESI XSYROPIGADO 19600 MANDRA ATTIKIS EL																									
Material 59004729 Description TXT002 48,3x2x6000 TP304L LAS Z		Test specification: EN 10217-7 TC1 Stainless steel grade: TP 304L 1.4307/1.4301 X2CrNi18-9/X5CrNi18-10 Tolerances: ISO 1127 D3-T3				Welding process LASER WELDING Order Nr 1181086135/300 Client Order 13055-2018																									
Item 1 Identification Nr 18KK009830 Heat 50124		Quantity MTL 366 Quantity KG 811 Quantity PZZ 61		Delivery conditions WD Remarks BRUSHED		Part Number Client Date 24/08/2018																									
Identification Nr 18KK009830 Chemical Type RAW MATERIAL		<table border="1"> <thead> <tr> <th>C (%)</th> <th>Si (%)</th> <th>Mn (%)</th> <th>P (%)</th> <th>S (%)</th> <th>N (%)</th> <th>Cr (%)</th> <th>Ni (%)</th> </tr> </thead> <tbody> <tr> <td>0.03</td> <td>1</td> <td>2</td> <td>0.045</td> <td>0.015</td> <td>0.11</td> <td>17.5</td> <td>8</td> </tr> <tr> <td>0.020</td> <td>0.400</td> <td>1.390</td> <td>0.0280</td> <td>0.0049</td> <td>0.0760</td> <td>18.070</td> <td>8.000</td> </tr> </tbody> </table>						C (%)	Si (%)	Mn (%)	P (%)	S (%)	N (%)	Cr (%)	Ni (%)	0.03	1	2	0.045	0.015	0.11	17.5	8	0.020	0.400	1.390	0.0280	0.0049	0.0760	18.070	8.000
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Item 1 Identification Nr 18J4013360 Heat 1012371		Quantity MTL 114 Quantity KG 756 Quantity PZZ 19		Delivery conditions WD Remarks BRUSHED		Part Number Client Date 7/09/2018																																	
Item 2 Identification Nr 18J4013380 Heat 1012393		Quantity MTL 114 Quantity KG 752 Quantity PZZ 19		Delivery conditions WD Remarks BRUSHED		Part Number Client Date 7/09/2018																																	
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<b>PADANA TUBI</b> S. PROFILATI ACCIAIO S.P.A. Via Portofurata, 8/A 42016 GUASTALLA (RE) - ITALIA Tel. + 39 522 83.65.55 (r.a.) Fax + 39 522 83.65.72 - 83.65.73 Cod. Fis. e P. IVA IT00323370353		TIPO DOCUMENTO - TYPE DOCUMENT (EN10204) <b>Rapporto di Prova 2.2</b> <b>Test Report 2.2</b> <b>Nr. : 19006383</b>		Data - Date 21/01/2019		Pag. 1 / 1																						
		AZIENDA CON SISTEMA DI GESTIONE QUALITA' CERTIFICATO SECONDO UNI EN ISO 9001		Country of Production: Italy Coils Origin: EU Country		D.D.T. - DELIVERY NOTE <b>19004616 - 21/01/2019</b>																						
CH. YAGDJOGLOU FINE STEEL CO. ANDREA MOURATI 22a 18547 PIRAEUS Grecia		( 8723 ) Consegna: Delivery:		CH. YAGDJOGLOU NEAS CHIMACHIKIS STR. 54628 THESSALONIKI Grecia		( 8724 )																						
Riferimenti Normativi Tubi - Hollow Sections Standard: ASTM A554 + EN10219-2																												
<b>Tubi Saldati Longitudinalmente (ERW)</b> Longitudinal Welded Tubes (ERW)				<b>Composizione Chimica</b> Chemical Composition		<b>Proprietà Meccaniche e Tecnicologiche</b> Mechanical and Technical Properties																						
Dim. (mm)	Sp. (mm)	L (mm)	Acciaio Steel	Fin.	Lotto	MT Tot. WGT (m)	Peso (kg)	Colata Heat	%C	%Si	%Mn	%P	%S	%Nb	%V	%Al	%Ti	%Cr	%Ni	%Mo	%Cu	%N	R <sub>m</sub> MPa	R <sub>eH</sub> MPa	R <sub>m</sub> A	A80 %	Durezza HRB	
<b>ORDINE CLIENTE - CUSTOMER ORDER</b> 11256 11/01/2019								<b>ORDINE PADANA TUBI - P. T. ORDER</b> SE - 19001765								<b>FATTURA - INVOICE</b>												
40X40	1,50	6000	1.4301/1.4307		SP	TN04535976	540,00	934	04/89400	0,017	0,440	1,190	0,034	0,001					18,100	8,000		0,046	298	335	628	55,0	54,0	84
20X20	1,00	6000	1.4301/1.4307		SP	TN04469958	726,00	439	01/454001	0,026	0,340	1,720	0,034	0,001					18,030	8,050	0,260	0,065	259	291	598		60,5	76
30X30	1,50	6000	1.4301/1.4307		SP	TN04543049	600,00	751	01/454666	0,020	0,310	1,770	0,028	0,001					18,190	8,010	0,270	0,066	268	297	616		57,6	81
100X50	3,00	6000	1.4301/1.4307		SP	TN04435272	144,00	931	04/85166	0,023	0,400	1,560	0,035	0,001					18,100	8,100		0,050	268	322	629		53,0	82
50X50	2,00	6000	1.4301/1.4307		SP	TN04535452	294,00	846	04/89472	0,024	0,500	1,560	0,036	0,001					18,200	8,000		0,048	314	359	649	52,0	51,0	86
60X40	3,00	6000	1.4301/1.4307		SP	TN04515011	210,00	878	01/454537	0,023	0,300	1,780	0,028	0,001					18,070	8,070	0,320	0,062	307	365	646		51,3	84
35X35	1,00	6000	1.4301/1.4307		SP	TN04299847	600,00	611	01/523996	0,023	0,340	1,670	0,027	0,001					18,070	8,050	0,240	0,067	302	376	653	49,5	48,5	84
80X80	2,00	6000	1.4301/1.4307		SP	TN04547536	180,00	841	02/337671	0,028	0,560	1,360	0,031	0,001					18,070	8,050		0,068	308	360	664	51,0	48,0	85
80X40	1,50	6000	1.4301/1.4307		SP	TN04367540	240,00	628	04/71883	0,023	0,490	1,510	0,025	0,003					18,200	8,100		0,046	274	310	622	59,0	57,0	81
80X40	2,00	6000	1.4301/1.4307		SP	TN04523626	240,00	820	01/454714	0,027	0,360	1,710	0,030	0,001					18,120	8,040	0,330	0,068	310	370	660		50,8	79
15X15	1,20	6000	1.4301/1.4307		SP	TN04409229	726,00	385	01/453441	0,025	0,330	1,690	0,029	0,001					18,010	8,120	0,280	0,063	269	302	610		59,4	76

Controllo visivo e dimensionale: esito positivo Visual and dimensional control: OK		Certificiamo che il prodotto fornito è conforme ai requisiti dell'ordine We certify that material supplied complies with the requirements agreed on order
Verifica antimiscelamento: esito positivo Anti-mixing test: OK		Padana Tubi & Profilati Acciaio S.p.A. Controllo Qualità / Quality Department

M 7.5.19 - rev. 00

Serialo Certificato 000000000000041158

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振石集团东方特钢有限公司  
ZHENSHI GROUP EASTERN SPECIAL STEEL  
CO., LTD

地址:浙江省嘉兴市南湖区新丰镇经济开发区

ADD: ECONOMIC DEVELOPMENT ZONE, XINFENG COUNTRY, NANHU  
DISTRICT, JIAXING CITY 314005, ZHEJIANG PROVINCE

电话TEL: +86-573-83988281

传真FAX: +86-573-83988198

邮编(P.C.):314005

质量证明书  
INSPECTION CERTIFICATE



依据 EN 10204-3.1

INSPECTION CERTIFICATE EN 10204-3.1

0036

Certified in according to Regulation 305/2011/EU: System 2\*  
by TÜV SÜD Industrie Service GmbH Westendstr.199;D-80686 Munich  
(Notified Body no.-0036)

熔化过程(MELTING PROCESS): EAF+AOD+LF

热处理(HEAT TREATMENT): SOLUTION 1050-1100°C QUENCHING IN WATER

订货单位 CUSTOMER	S. I. P. I SPA	收货单位 PURCHASER	S. I. P. I SPA	合同号 CONTRACT NO.	ESS(S)/WX- 04020180718- 013
牌号 GRADE	1.4307	交货状态 SOLUTION TREATED AND PICKLING	ID	证书号 CERTIFICATE NO.	180906058-1
DQP NO.	ESS-CPR-2014-1	产品名称 PRODUCT	热轧不锈钢带 HOT-ROLLED STAINLESS STEEL COILS		
标准 SPECIFICATION	EN 10088-4:2009				

钢卷/板号 COIL/PLATE NO.	炉号 HEAT NO.	规格及重量 MATERIAL DESCRIPTION					化学成分(熔炼分析) % CHEMICAL COMPOSITION (HEAT ANALYSIS) %										
		厚度 THICK	宽度 WIDTH	长度 LENGTH	数量 QUANTITY	重量 WEIGHT	C	Si	Mn	P	S	Cr	Ti	Ni	Mo	N	
		mm	mm	mm	件	kg											
118138050100	1813805	10.00	1530	C	1	20335	0.020	0.42	1.52	0.028	0.002	18.02			8.06		0.065
118138070200	1813807	10.00	1530	C	1	20315	0.020	0.41	1.52	0.028	0.001	18.04			8.03		0.062
118138060300	1813806	10.00	1530	C	1	20350	0.021	0.33	1.45	0.029	0.002	18.15			8.03		0.059
118138050300	1813805	12.00	1530	C	1	20280	0.020	0.42	1.52	0.028	0.002	18.02			8.06		0.065
118138050200	1813805	12.00	1530	C	1	20270	0.020	0.42	1.52	0.028	0.002	18.02			8.06		0.065
合计(TOTAL)					5	101550											

钢卷/板号 COIL/PLATE NO.	拉伸试验 TENSILE TEST					硬度试验 HARDNESS		冲击试验 IMPACT TEST (ISO-V)					晶间腐蚀 INTERGRANULAR CORROSION TEST		
	抗拉强度 (T.S.)	屈服强度 (Y.S.)		断后伸长率 (EL.)		HRB	HRC	弯曲 试验 BEND	方向 DIR.	宽度 WIDTH	温度 TEMP.	ABSORBED ENERGY			
	Rm	Rpe.2	Rpe.0	A	A80							KV/J		1	2
118138050100	632	253	294	62		85			TR.	7.5	20	156	160	142	PASS
118138070200	649	267	308	63		86			TR.	7.5	20	153	146	157	PASS
118138060300	633	258	299	59		85			TR.	7.5	20	143	158	150	PASS
118138050300	645	288	329	62		86			TR.	10	20	196	190	199	PASS
118138050200	643	286	327	63		87			TR.	10	20	183	198	192	PASS

备注: 1. TR.: (Transverse)横向, L.: (Longitudinal)纵向, Dir.: (Direction)方向, TEM.: (temperature)温度, EL.: (Elongation)断后伸长率,  
Y.S.: (Yield Strength)屈服强度, T.S.: (Tensile Strength)抗拉强度  
2. Intergranular Corrosion test acc. to EN ISO 3651-2 Method A: Accepted  
3. Dimension control, visual inspection and grade check acc. to EN 10029 Class B/W: Accepted  
4. HARDNESS AS PER REQUIREMENT FROM NACE ANSI/NACE MR0175/ISO15156-1/-3


交货日期 DATE OF DELIVERY	3-Sep-18	发票号 INVOICE NO.	ESSL20100935
签发日期 DATE OF ISSUE	6-Sep-18	信用证号码 L/C NO.	9631560270
备注REMARKS: 谨保证以上所有的内容真实准确 WE HEREBY CERTIFY THE ABOVE STATEMENT TO BE TRUE AND CORRECT IN EVERY DETAIL.			

公司印章  
Company Seal

质量负责人:  
(QUALITY MANAGER)

This to declare that the material as described in here as been cut to :  
Piatto CES.304L F1 100,000X10,000 Length: 6000,000  
and remarked with steelgrade, heat n°, workinspector's stamp CC



		Marcegaglia 40045 Via Bressana 16 - Loc. S. Maria - 40045 Tel. +39 - 0576 68011 Fax. +39 - 0576 680100 www.marcegaglia.com		Type: Inspection Certificate 3.1 EN 10204 This DOCUMENT HAS PRODUCED AUTOMATICALLY AND IS VALID WITHOUT SIGNATURE		Number: 10519081499 Issued On: 29/01/2019					
		WELDING PROCESS QUALIFICATION: ALL THE LASER WELDING PROCESS ARE QUALIFIED ACCORDING EUROPEAN PRESSURE EQUIPMENT DIRECTIVE PED 97/23/EC BY THE NOTIFIED BODY N.1233 EUROPED WITH WELDING PROCEDURE QUALIFICATION WPOR N° PM0907A001 Registration no. 10M203 AND WPOR N° PM0907A002 Registration no. 11M017. STILL VALID UNDER PED 2014/68/EU PER ARTICLE 48 CLAUSE 3.									
Customer: PROMETALBAKLI S.A. PO BOX 10 19018 THESI LOU TSA-MAGOU LA ATTI EL		Code: 0000082538		Consignee: PROMETALBAKLI S.A. THESI XSYROPIGADO 19600 MANDRA ATTIKIS EL		Delivery Nn Of: 8305901843 29/01/2019 Delivery note nr 1005001130		Quality Control G.M.D./G.M. S.Toccano Plant Of Forli		Pages 10/24	
Material: <b>59000850</b>		Test specification: Stainless steel grade: TP 304 1.4301 X5CrNi18-10 Tolerances: EN10305-6 EN10219-2 ASTM A564				Welding process HIGH FREQUENCY INDUCTION WELDING		Order Nr: <b>1181139017/200</b>		Client Order: <b>13123-2018</b>	
Description: <b>TXQ 50X50X3X6000 TP304 Z</b>								Part Number		Client Code: <b>8/12/2018</b>	
Item	Identification Nr	Heat	Quantity MTL	Quantity KG	Quantity PZZ	Delivery conditions	Reworks	WE CERTIFY THAT THE ABOVE MENTIONED PRODUCTS COMPLY WITH THE TERMS OF ORDER CONTRACT AND THE STANDARDS RECALLED IN THE PRESENT TEST CERTIFICATE			
1	18Y0030999	Y180911E09	47.1	204	8						
2	18Y0031001	Y180911E09	294	1215	49						
Identification Nr	Chemical Type	C (%)	Si (%)	Mn (%)	P (%)	S (%)	N (%)	Cr (%)	Ni (%)		
18Y0030999	RAW MATERIAL	.036	.382	1.081	.0258	.0044	.0504	18.215	8.088		
18Y0031001	RAW MATERIAL	.036	.382	1.081	.0258	.0044	.0504	18.215	8.088		
Identification Nr	Type of mechanical test	Rp 0.2 [MPa]	Rp 1.0 [MPa]	Rm [MPa]	A5 (%)	MARCEGAGLIA SPECIALTIES FOR LIMPOROLI PLANT SYSTEM CERTIFICATIONS QUALITY SYSTEM CERTIFIED ACCORDING TO EN 9001:2008 AND ISO/TS 16949:2009 AND ISO 3834-2:2006 AND A SAFETY SYSTEM CERTIFIED ACCORDING TO CHASAS 18001:2007 AND AN ENVIRONMENTAL SYSTEM CERTIFIED ACCORDING TO ISO 14001:2004. MARCEGAGLIA SPECIALTIES FOR LIMPOROLI PRODUCT CERTIFICATIONS DGMW ACCORDING TO EN941 LASER AND TIG WELDED TUBES STAINLESS STEEL GRADE 1.4604 DA FROM 15.00 TO 108.00MM AND GRADE 1.4521 FROM 15.00 TO 54.00MM. TUV A2000 W2W10 AND PED ANNEX I, PARAGRAPH 4.3 LASER AND TIG WELDED TUBES STAINLESS STEEL GRADE 1.4301, 1.4306, 1.4307, 1.4401, 1.4404, 1.4541, 1.4571, 1.4425, 1.4426 THICKNESS FROM 0.80 TO 4.00MM AND DIAMETRS FROM 8.00 TO 203.00 MM. ENDS FOR DAIRY TUBES TX1015, TYPD - EUROPEAN DIRECTIVE 1935/2004 FOR DAIRY TUBES TX1003, TX1014, TX1015.					
18Y0030999	TUBE	276	307	605	51.9						
18Y0031001	TUBE	276	307	605	51.9						
NON DESTRUCTIVE TESTS ANTIMIXING TEST: CONFORM VISUAL INSPECTION AND DIMENSIONAL CONTROLS: CONFORM						DESTRUCTIVE TESTS FLATTENING TEST ACCORDING TO EN ISO 5462:2004: CONFORM TENSILE TEST ACCORDING TO EN ISO 6892-1:2009					
Marking											
Remarks: *THE CHEMICAL COMPOSITION REFERS TO THE RAW MATERIAL USED ACCORDING TO EN 10088-2 AND 10028-7											

**Chain certificate**

# SKF Authorized Distributor

This certifies that

## Karampatzaki V. Eleni

located at 199, Monastiriou str., 546 27, Thessaloniki, Greece is an Authorized Distributor  
and this is valid from 01 January 2019 to 31 December 2019



A handwritten signature in blue ink, appearing to read "Rania Patsiopoulos", written over a horizontal line.


Rania Patsiopoulos  
Managing Director, SKF Hellas  
Athens, January 03, 2019

A handwritten signature in blue ink, appearing to read "Nikos Lentzas", written over a horizontal line.

Nikos Lentzas  
Distributor Development Manager, SKF Hellas  
Athens, January 03, 2019

The SKF logo, consisting of the letters "SKF" in a bold, white, sans-serif font, set against a blue background.

**Bearings certificate**



---

**SKAZIKIS - MARANGOS**

To : LAKIDIS I. NIKOLAOS A.B.E.E.

**THESSALONIKI**  
P.O.Box 1154, 570 22 Industrial Area Sindos  
GR – 570 22 Thessaloniki  
Tel.: 0030 2310 779 520  
Fax: 0030 2310 798 890

**ATHENS**  
2 Serron str.  
GR – 104 41 Athens  
Tel.: 0030 210 52 96 890  
Fax: 0030 210 52 96 819

[info@skama.gr](mailto:info@skama.gr)  
[www.skama.com](http://www.skama.com)

Thessaloniki, 12/04/2019

**CERTIFICATION – DECLARATION**

With this letter we certify that our company E. Skazikis - L. Marangos SA is the official distributor of the manufacturer Schaeffler Technologies AG & Co.. KG (FAG-INA)  
([www.schaeffler.de/content.schaeffler.de/en/schaeffler-germany/sales/authorized\\_distributors/index.jsp?app=directsearch&filter=region:39%2C40440;brand:fag&page=1](http://www.schaeffler.de/content.schaeffler.de/en/schaeffler-germany/sales/authorized_distributors/index.jsp?app=directsearch&filter=region:39%2C40440;brand:fag&page=1) )

Best regards

**Ε. ΣΚΑΖΙΚΗΣ - Λ. ΜΑΡΑΓΚΟΣ Α.Ε.**  
ΕΞΑΡΤΗΜΑΤΑ ΜΗΧΑΝΙΚΩΝ ΕΦΑΡΜΟΓΩΝ  
Τ.Θ. 154 ΒΙ.ΠΕ.Θ. ΣΙΝΔΟΣ Τ.Κ. 570 22 ΘΕΣΣ/ΚΗ  
ΤΗΛ. 2310.779.560 - FAX: 2310.795269  
Α.Φ.Μ. 094041866 - Δ.Ο.Υ. Φ.Α.Ε. ΘΕΣΣ/ΚΗΣ

Kallias Savvas  
Mechanical engineer

**Duo tubing certificate**



**Extended Material Information**

Datum  
29. April 2016

4878378 | DRW I - I 000000

Plastic tubing PUN-H and duo tubing PUN-H-DUO:

Materials and articles	Material designation	Group of materials	Standard/Registration
Base material	TPE-U	Elastomer	- FDA 21 CFR 177.2600 - Regulation (EU) No 10/2011 - BFR Recommendation XXXIX
<b>Additives</b>			
Silver	HT-MAB PU91029	Colorant	- FDA 21 CFR 178.3297 - BFR Recommendation IX
Black	HT-MAB PU91030		
Yellow	HT-MAB PU11014		
Red	HT-MAB PU31006		
Green	HT-MAB PU61017		
Brown	HT-MAB PU81007		
Blue	HT-MAB PU51027	Colorant	- FDA 21 CFR 178.3297
White	HT-MAB PU91027		- BFR Recommendation
Blue translucent	HT-MAB PU51041	Colorant	- FDA 21 CFR 178.3297 - BFR Recommendation

Subject to change without prior notice.

**Festo AG & Co. KG**

Postfach  
73726 Esslingen  
Telefon 0711 347-0

[www.festo.com](http://www.festo.com)  
Ruiter Straße 82  
73734 Esslingen

Seite(n)  
2 von 2

**Blue plastic components certificates**

**00203 TECAFORM AH blue**

Stock Shapes  
 Base Polymer: POM-C  
 Referenz Nr./Reference No.: SH00203FD0101\_V02



Seite/Page 1 von/of 8

Ensinger GmbH · Rudolf-Diesel-Str. 8 · 71154 Nufringen

ETKA  
 P. Vrakas & Co O.E.  
 Kastoros 12  
 GR-18540 PIRÄUS

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Warenempf./Ship-to	Lieferschein/Delivery note	Datum/Date
5100004139	80166750	25.02.2019

Ihr Ansprechpartner/  
 Contact person: Ute Schäfer  
 Tel.: +49 7032-819 126  
 E-Mail: [ute.schaefer@ensingerplastics.com](mailto:ute.schaefer@ensingerplastics.com)

**Erklärung/Declaration**

Pos	Material	Bezeichnung/ Description	Prod.-Charge/ Prod. lot
10	1007910	ROD 16 MM	0000108226
Stoffgruppe/Material Group: TECAFORM AH blue			
Auftrag/Order + Pos: 10121453 / 10 Kund.auftr./Cust.Ord.: ENS-4			

Ute Schäfer  
 Vertrieb Innendienst

Dieses Dokument wurde elektronisch erstellt und ist ohne Unterschrift gültig

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 Rudolf-Diesel-Straße 8  
 D-71154 Nufringen  
 Tel. +49 7032-819-0, Fax -100  
 Internet: [www.ensingerplastics.com](http://www.ensingerplastics.com)

**Banks**  
 LBSW Stuttgart BIC: SOLADEST600  
 IBAN: DE82 6005 0101 0008 8000 55

**Ensinger GmbH**  
 Registergericht Stuttgart, HRB 241486  
 Geschäftsführer:  
 Klaus Ensinger, Dr. Roland Reber

**00203 TECAFORM AH blue**

Stock Shapes  
 Base Polymer: POM-C  
 Referenz Nr./Reference No.: SH00203FD0101\_V02



Seite/Page 2 von/of 8

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**Erklärung zum Lebensmittelkontakt**

**Declaration on Food-Contact**

Das Halbzeug TECAFORM AH blue erfüllt die zutreffenden Anforderungen der folgenden Regularien:

The semi-finished product TECAFORM AH blue meets the applicable requirements of the following regulations:

- Europäische Verordnung EC 10/2011 und Änderungen
- Europäische Verordnung EC 1935/2004
- Europäische Verordnung EC 2023/2006 (GMP)
- FDA §21 CFR 177. 2470 (Polyoxymethylene copolymer)

- European Regulation EC 10/2011 and amendments
- European Regulation EC 1935/2004
- Council Regulation EC 2023/2006 (GMP)
- FDA §21 CFR 177. 2470 (Polyoxymethylene copolymer)

Zusammenfassung der Gesamt- und der Spezifischen Migration gemäß EU 10/2011:

Summary of Global and Specific migration according to EU 10/2011:

**Lebensmittel- Simulanz:**

Simulanz A	10% Ethanol
Simulanz B	3% Essigsäure
Simulanz D2	Sonnenblumenöl

**Food simulant:**

Simulant A	10% Ethanol
Simulant B	3% Acetic Acid
Simulant D2	Sunflower oil

**Beschreibung:**

Simulanz A	hydrophile Lebensmittel (wässrige Lebensmittel)
Simulanz B	säure Lebensmittel (pH<math>4,5</math>)
Simulanz D2	fettige Lebensmittel

**Description:**

Simulant A	hydrophilic foods (aqueous foods)
Simulant B	acidic foods (pH<math>4,5</math>)
Simulant D2	fatty foods

**Prüfbedingung:**

- OM3 (2h 70°C)
- OM3 (2h 70°C)
- OM3 (2h 70°C)

**Testing condition:**

- OM3 (2h 70°C)
- OM3 (2h 70°C)
- OM3 (2h 70°C)

**Ergebnis:** bestanden ohne Einschränkung

**Result:** all passed without limitation

Die Ergebnisse beziehen sich auf ein Oberflächen-Volumen-Verhältnis von 6:1 für den wiederholten Lebensmittelkontakt.

The results are displayed for a surface to volume ratio of 6:1 for repeated use.

Die Details der Migrationsprüfungen und die detaillierten Testergebnisse finden Sie auf den folgenden Seiten dieses Dokuments.

For the details of the migrations tests and detailed test results please see following pages of this document.

Die Testergebnisse decken alle Arten von Lebensmitteln ab gemäß Anhang III Absatz 4 (OML) und Anhang 5 Absatz 2.1.2 (SML).

The test results are cover all types of food, according to Annex III Part 4 (OML) and Annex 5 Part 2.1.2 (SML);

\*Zum Nachweis der Einhaltung des Gesamt-migrations-grenzwerts wird für alle Arten von Lebensmitteln die Prüfung in [...] Lebensmittelsimulanz A, B und D2 durchgeführt.\*

\*To demonstrate compliance with the overall migration limit for all types of food testing in (...) food simulant A, B and D2 shall be performed.\*

Dieses Zertifikat bezieht sich nur auf das extrudierte und getemperte Halbzeug. Der Hersteller / Inverkehrbringer des fertigen Produkts muss die Einhaltung der globalen Migration (OML) und der spezifischen Migrations-

This certificate refers only to the extruded and annealed semi-finished plastic product. The manufacturer /distributor of the finished product must verify compliance

Address  
 Rudolf-Diesel-Straße 8  
 D-71154 Nürtingen  
 Tel. +49 7032-819-0, Fax +100

Banks  
 LBBW Stuttgart BIC: SOLADEST800  
 IBAN: DE52 6005 0101 0006 8060 05

Ensinger GmbH |  
 Registergericht Stuttgart, HRB 241486  
 Geschäftsführer:

**00203 TECAFORM AH blue**

Stock Shapes

Base Polymer: POM-C

Referenz Nr./Reference No.: SH00203FD0101\_V02



Seite/Page 3 von/of 8

Ensinger GmbH · Rudolf-Diesel-Str. 8 · 71154 Nufringen

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**Erklärung zum Lebensmittelkontakt**

**Declaration on Food-Contact**

grenzwert (SML) überprüfen und ist verantwortlich für die abschließende Überprüfung zur Übereinstimmung mit der EU 10/2011.

according to the global migration (GML) and the specific migration.

Informationen zur Rohware und zum Herstellungsprozess:

Information on the raw materials and the manufacturing process:

Diese Erklärung bezieht sich auf Halbzeug bezogen bei der Ensinger GmbH in Nufringen. Für die Produktion des oben genannten Halbzeugs aus thermoplastischem Kunststoff werden festgeschriebene Halbzeugrezepturen eingesetzt. Dafür wird Rohware aus Polyoxymethylen Copolymer (POM-C) mit einem Zusatz von Additiven verwendet. Bei der Verarbeitung und Handhabung der Rohware werden die Empfehlungen der Rohwarehersteller berücksichtigt. Nach der Extrusion wird das Halbzeug zur Spannungsminderung in der Regel einem Temperprozess unterzogen. Gegebenenfalls erfolgt noch eine Konfektionierung in unserem Zuschnittservice. Eine Bearbeitung in Form von Hobeln oder Sägen wird im Hause Ensinger trocken durchgeführt, ohne Einsatz von Kühlschmiermittel. Die nachfolgende Erklärung schließt gehobelte oder gesägte Artikel mit ein. Beim Schleifen wird Kühlschmiermittel verwendet. Der Einfluss des Kühlschmiermittels beim Schleifen auf die Migrationseigenschaften wurde nicht geprüft und muss auf der nachgelagerten Bearbeitungsstufe noch bewertet werden.

The present statement refers to semi-finished products supplied by Ensinger GmbH in Nufringen. For the production of the above-mentioned semi-finished product made of thermoplastic polymer, defined stock shape recipes are used. The raw material used is polyoxymethylene copolymer (POM-C) with an addition of additives. In the manufacturing and processing of the raw material the manufacturer's recommendations are taken into account. Following extrusion, where appropriate, the semi-finished product is subjected to an annealing process in order to reduce tension. If appropriate, there is a tailoring in our cutting service. At Ensinger processing in form of planing or cutting is performed dry, without the use of coolant. The following statement includes planed or cut products. During grinding coolant is used. The influence of the coolant on the migration properties was not examined and has to be evaluated yet in the downstream processing step.

Lebensmittelkontakt entsprechend Food and Drug Administration (FDA):

Food contact according to the U.S. Food and Drug Administration (FDA):

Entsprechend den Angaben des Herstellers erfüllt das Basispolymer POM-C in seiner Zusammensetzung die Anforderungen für den wiederholten Lebensmittelkontakt nach FDA § 21 CFR 177.2470 (Polyoxymethylen copolymer). Es bestehen Vorgaben bezüglich Extraktionslimits und Anwendungsbedingungen entsprechend FDA § 21 CFR 177.2470. Die Einhaltung dieser Vorgaben wurde am Halbzeug nicht geprüft, da sie sich in der Regel auf den Endartikel beziehen.

According to the manufacturer's data, the composition of POM-C base polymer complies with the requirements for repeated contact with food according to FDA § 21 CFR 177.2470 (polyoxymethylene copolymer). There are requirements regarding extractive limitations and conditions of use as specified in FDA § 21 CFR 177.2470. Adherence to these requirements has not been tested on the semi-finished product since they are usually referring to the final article.

Das Farbkonzentrat erfüllt laut Angaben des Herstellers die zutreffenden Anforderungen für den wiederholten Lebensmittelkontakt nach FDA § 21 CFR 178.3297 (Colorants for polymers) und kann unter Beachtung des „no migration“ Prinzips entsprechend FDA § 21 CFR 170.39 eingesetzt werden. Die genauen Angaben zu FDA § 21 CFR 177.2470, 178.3297, und 170.39 können unter folgender Adresse abgerufen werden: <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfdr/cfsearch.cfm>

As to the manufacturer's data, the color concentrate meets the requirements for repeated food contact according to FDA § 21 CFR 178.3297 (Colorants for polymers) and can be used taking into account the "no migration" principle as per FDA § 21 CFR 170.39. The exact provisions of FDA § 21 CFR 177.2470, 178.3297 and 170.39 can be found at: <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfdr/cfsearch.cfm>

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E-Mail: [info@ensingerplastics.com](mailto:info@ensingerplastics.com)

**Banks**  
LBW Stuttgart BIC: SOLADEST600  
IBAN: DE22 6005 0101 0008 9060 55  
  
Deutsche Bank Stuttgart BIC: DEUTDE33XXX  
IBAN: DE13 6007 0070 0098 0019 00

**Ensinger GmbH**  
Registriergericht Stuttgart HRB 241486  
Geschäftsführer:  
Klaus Ensinger, Dr. Roland Reber  
Finanzamt Böblingen 56455/00772  
USt-IdNr.: DE275237963

**00203 TECAFORM AH blue**

Stock Shapes  
 Base Polymer: POM-C  
 Referenz Nr./Reference No.: SH00203FD0101\_V02



Seite/Page 4 von/of 8

Ensinger GmbH - Rudolf-Diesel-Str. 8 - 71154 Nürtingen

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**Erklärung zum Lebensmittelkontakt**

Konformitätserklärung gemäß Verordnung (EU) Nr. 10/2011:

Das oben genannte Halbzeug TECAFORM AH blue erfüllt die zutreffenden Anforderungen der Rahmenverordnung (EG) Nr. 1935/2004 über Materialien und Gegenstände, die dazu bestimmt sind, mit Lebensmitteln in Berührung zu kommen und der Verordnung (EG) Nr. 2023/2006 über gute Herstellungspraxis (GMP). Die verwendeten Rohwaren entsprechen den zutreffenden Anforderungen an die Monomere und sonstigen Stoffe (Zusatzstoffe, Hilfsstoffe, Farbstoffe usw.) gemäß Verordnung (EU) Nr. 10/2011. Entsprechend den Angaben der Rohwarenersteller sind Monomere und Zusatz- bzw. Hilfsstoffe enthalten, die einer Einschränkung durch einen spezifischen Migrationsgrenzwert (SML) unterliegen. Es sind Stoffe enthalten, die auch als Lebensmittelzusatzstoff zulässig sind.

Das Halbzeug erfüllt die Anforderungen der Verordnung (EU) Nr. 10/2011 unter den im Folgenden aufgeführten Bedingungen.

**Migrationsprüfungen durchgeführt am Halbzeug:**

Die Migrationsprüfungen wurden an Prüfkörpern aus verschiedenen repräsentativen Halbzeugchargen und Werkstoffen nach den Methoden 80.30-1 (EG) ff der amtlichen Sammlung von Untersuchungsverfahren nach § 64 LFGB durchgeführt. Die Prüfkörper wurden aus Halbzeug in der Regel nach dem Temperprozess entnommen. Die Prüfung erfolgte an einem akkreditierten Prüfinstitut. Die Migration wurde in den unten aufgeführten Lebensmittelsimulanzien (LM-Simulanz) und unter den aufgeführten Prüfbedingungen getestet. Die Prüfplatten wurden mit 200 ml Lebensmittelsimulanz pro dm<sup>2</sup> Probenoberfläche versetzt. Die hier dargestellten Ergebnisse sind als eine Einschätzung anzusehen, auf Basis von Prüfbedingungen und Annahmen, die sich aus den in der Verordnung (EU) Nr. 10/2011 standardisierten Vorgaben und Tabellen ergeben. Abweichungen hiervon sind nicht ausgeschlossen.

Laut Anhang V der Verordnung (EU) Nr. 10/2011 ist für Mehrweggegenstände, die dazu bestimmt sind, wiederholt mit Lebensmitteln in Berührung zu kommen, festgelegt, dass die Konformität auf der Grundlage des in der dritten Prüfung ermittelten Migrationswerts geprüft wird. Wird jedoch schlüssig nachgewiesen, dass der Migrationswert in der zweiten und dritten Prüfung nicht

**Declaration on Food-Contact**

Declaration of Conformity in accordance with Regulation (EU) No 10/2011:

The aforesaid semi-finished product TECAFORM AH blue meets the applicable requirements of the Framework Regulation (EC) No 1935/2004 on materials and articles intended to come into contact with food and of the Council Regulation (EC) No 2023/2006 on good manufacturing practice (GMP).

The raw materials used meet the applicable requirements set for the monomers and the other substances (additives, polymer production aids, colorants etc.) according to Regulation (EU) No 10/2011. As to the manufacturer's statements, the raw materials contain monomers and additives or polymer production aids that are subject to a restriction by a specific migration limit (SML). In addition, substances are contained which are also permissible as food additives.

The stock shapes meet the requirements of Regulation (EU) No 10/2011 under the conditions listed below.

**Migration tests carried out on semi-finished products:**

The migration tests were performed on test specimens from various representative stock shape lots according to the methods 80.30-1 (EC) et seq. of the official collection of test methods according to § 64 LFGB. The specimens were taken from semi-finished product usually after the annealing process. The testing was conducted at an accredited testing laboratory. The migration was tested using the food simulants and test conditions described below. The test plates were placed in contact with 200 ml of food simulant per dm<sup>2</sup> of sample surface. The results presented here should be considered as an assessment based on test conditions and assumptions that arise from specifications and tables standardised in Regulation (EU) No 10/2011. Deviations therefrom cannot be excluded.

In Annex V of Regulation (EU) 10/2011 is set, that if the material or article is intended to come into repeated contact with foods, its compliance shall be checked on the basis of the level of the migration found in the third test. However, if there is conclusive proof that the level of the migration does not increase in the second and third

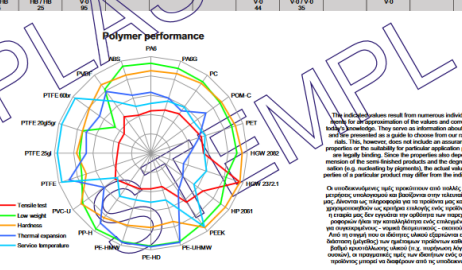
Address  
 Rudolf-Diesel-Straße 8  
 D-71154 Nürtingen  
 Tel.: +49 7032-819-0, Fax: -100  
 Internet: www.ensingerplastics.com  
 E-Mail: info@ensingerplastics.com

Banks  
 LBBW Stuttgart BIC: SOLADEST600  
 IBAN: DE62 6005 0101 0008 8060 55

Deutsche Bank Stuttgart BIC: DEUTDE33XXX  
 IBAN: DE11 6007 0070 0100 0119 80

Ensinger GmbH  
 Registergericht Stuttgart, HRB 241486  
 Geschäftsführer:  
 Klaus Ensinger, Dr. Roland Reber  
 Finanzamt Böblingen 5645540772  
 USt-IdNr.: DE 246522217



Physical Material Properties - Φυσικές Ιδιότητες Υλικών	PA6	PA6G	PA6C	PE-HD	PE-LD	PE-BAW	PE-BAW	PE-H	PVDF	PC	PET	PTE	PTE 25G	PTE 25Gv	PTE 25Gv	PVDF	PEEK	HOW 2002	HOW 2221.1	HP 2001	ABS
	Density - Πυκνότητα	1.14	1.15	1.14	0.95	0.96	0.93	0.91	1.44	1.20	1.38	1.38	2.17	2.21	2.21	3.00	1.78	1.31	1.30-1.40	1.20-1.30	1.05-1.07
Mechanical properties - Μηχανικές ιδιότητες																					
Tensile strength - Τension δύναμη	80	80	80	23	27	30	32	50	50	100	100	100	100	100	100	110	100	100	100	100	30
Elongation at break - Έκταση σε ρήξη	10	10	10	>100	>100	>100	>100	>100	>100	10	10	10	10	10	10	10	10	10	10	10	10
Impact strength - Επιπτώση δύναμη	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Heat resistance - Αντοχή σε θερμότητα																					
Softening point - Σημείο μαλάκησης	220	220	220	120	120	120	120	250	250	250	250	250	250	250	250	250	250	250	250	250	250
Thermal expansion - Θερμική διαστολή																					
CTE - Coefficient of Thermal Expansion	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10








PL SERIES


Steel components certificates

<b>PADANA TUBI</b> <b>S. PROFILATI ACCIAIO S.P.A.</b> Via Portamurata, 8/A 42016 GUASTALLA (RE) - ITALIA Tel. ++ 39 522 83 65 55 (r.a.) Fax ++ 39 522 83 65 72 - 83 65 73 Cod. Fis. e P. IVA IT00323370353		TIPO DOCUMENTO - TYPE DOCUMENT (EN10204) <b>Rapporto di Prova 2.2</b> <b>Test Report 2.2</b> <b>Nr. : 18057569</b>		Data - Date 06/07/2018 Pag. 1 / 1																												
AZIENDA CON SISTEMA DI GESTIONE QUALITA' CERTIFICATO SECONDO UNI EN ISO 9001		(42341) Consegna: (42341) <b>FRIGO STAHL</b> BLOK 54 - P.O. BOX 1321 GR 57022 TK THESSALONIKI Grecia		Country of Production: Italy Coils Origin: EU Country D.D.T. - DELIVERY NOTE <b>18042167 - 06/07/2018</b>																												
Riferimenti Normativi Tubi - Hollow Sections Standard: ASTM A554 + EN10219-2																																
<b>Tubi Saldati Longitudinalmente (ERW)</b> Longitudinal Welded Tubes (ERW)			<b>Composizione Chimica</b> Chemical Composition		<b>Proprietà Meccaniche e Tecnicologiche</b> Mechanical and Technical Properties																											
Dim. (mm)	Sp. Th. (mm)	L (mm)	Acciaio Steel	Fin.	Lotto	MT (m)	Peso WGT (kg)	Colata Heat	%C	%Si	%Mn	%P	%S	%Nb	%V	%Al	%Ti	%Cr	%Ni	%Mo	%Cu	%N	R <sub>m</sub> MPa	R <sub>eH</sub>	R <sub>m</sub>	A	A80	Durezza Hardness HRB				
<b>ORDINE CLIENTE - CUSTOMER ORDER</b> 18016249 26/06/2018			<b>ORDINE PADANA TUBI - P.T. ORDER</b> SE - 18030459			<b>FATTURA - INVOICE</b> - -																										
40X20	2,00	6000	1.4301/1.4307	SP	TN04314185	540.00	924	01/452672	0,026	0,350	1,720	0,027	0,001										18,020	8,010	0,210	0,064	293	371	654	48,0	82	
<b>ORDINE CLIENTE - CUSTOMER ORDER</b> 18016716 28/06/2018			<b>ORDINE PADANA TUBI - P.T. ORDER</b> SE - 18031354			<b>FATTURA - INVOICE</b> - -																										
50X20	1,50	6000	1.4301-AISI 304	SP	TN04232704	492.00	666	02/237140	0,021	0,400	1,430	0,031	0,001										18,180	8,020			290	331	648	55,0	55,0	81
100X50	3,00	6000	1.4301/1.4307	SP	TN04380883	144.00	924	01/529906	0,023	0,300	1,680	0,030	0,001										18,070	8,050	0,210	0,068	291	345	637	52,2	86	
80X40	3,00	6000	1.4301/1.4307	SP	TN04292099	192.00	992	01/452602	0,023	0,300	1,730	0,028	0,001										18,070	8,040	0,200	0,062	286	343	649	54,9	79	
Controllo visivo e dimensionale: <b>esito positivo</b> Visual and dimensional control: <b>OK</b>						Certificiamo che il prodotto fornito è conforme ai requisiti dell'ordine We certify that material supplied complies with the requirements agreed on order																										
Verifica antimiscelamento: <b>esito positivo</b> Anti-mixing test: <b>OK</b>						Padana Tubi & Profilati Acciaio S.p.A. Controllo Qualità / Quality Department																										

		<b>MILL CERTIFICATE BS EN 10204/3.1</b> <b>CERTIFICAT DE RECEPTION NF EN 10204/3.1</b> <b>ABNAHMEPRUEFZEUGNIS DIN EN 10204/3.1</b>				N-Nr-N 18K0019345-01 V01										
Correspondentieadres: Aperam Genk Swinnenwijerweg 5, Poort Genk 7523 3600 Genk, Belgium Tel. +32 (0)89 50 21 11																
<b>Manufacturer's works order number</b> N° de la commande usine productrice Werksauftragsnummer <b>80442984/07-32618/467/07</b>		<b>Surveyor's mark</b> Cachet de l'expert Stempel des Werkssachverständigen 	<b>Purchaser and/or consignee</b> Client et/ou destinataire Besteller und/oder Empfänger INOX MARKET PATSALA A.E. NEAR STADIUM MAKEDONIKOU 40325 POLICHNI SALONIQUE GRECE		<b>Purchaser's order number</b> N° de commande client Kundenbestellnummer 24/04											
<b>Product - Produit - Erzeugnis</b> SHEETS, COLD ROLLED, FINISH 2 B TOLES, LAMINEES A FROID, FINI 2B BLECHE,KALTGEWALZT,GEGLUEHT+GEBEIZT,LEICHT NACHGEWALZT		<b>Finish</b> Présentation Ausführung 2G NO 4	<b>Steelmaking process</b> Mode d'élaboration de l'acier - Stahlherstellungsverfahren Prod.proces: Electric arc furnace - VOD/AOD - Continuous casting Proc.fabric.: Four à arc - VOD/AOD - Coulée continue Fertigungsablauf: Elektro-Ofen - VOD/AOD - Stranggussanlage		<b>Product delivery condition</b> Etat de livraison du produit - Lieferzustand Solution treated: Hypertrempé: 1050 °C Lösungsgegl-abgeschreckt: Forced air-water/air forcé-eau Gebläse Luft-Wasser											
<b>Steel designation</b> Désignation de l'acier Stahlbezeichnung EN 10088-2-2014 1.4307 ASME SA 240-2017 TYPE 304L		<b>Any supplementary requirements</b> Prescriptions supplémentaires - Zusätzliche Anforderungen														
<b>Identification of the product</b> Identification du produit - Identifizierung des Erzeugnisses MELTED IN BELGIUM, MADE IN BELGIUM		<b>Dimensions</b> Dimensions - Abmessungen Thickness - Epaisseur - Stärke: 1.50 mm Width - Largeur - Breite: 1500.00 mm Length - Longueur - Länge: 3000.00 mm		<b>Number of pieces</b> No de pièces - Stueckzahl: 21												
<b>Coil n.</b> N.Botine - Band Nr. 80813523	<b>Heat n.</b> N.Coulée - Schmelz Nr. 808135	<b>Net weight</b> Poids net - netto Gewicht: 1114 KG														
<b>CHEMICAL ANALYSIS - ANALYSE CHIMIQUE - CHEMISCHE ZUSAMMENSETZUNG</b>																
	C	Si	Mn	Ni	Cr	Mo	Ti	N	S	P						
Required - Exigé Anforderung	0.030	0.75	2.00	8.00 10.50	19.50			0.100	0.015	0.045						
Cast Analysis Analyse coulée Analyse Schmelze	0.025	0.46	1.42	8.06	18.06			0.076	0.002	0.031						
	C71	C72	C73	C74	C75	C76	C77	C78	C79	C80	C81	C82	C83	C84	C85	C86
Positive material identification carried out: OK Tests de vérification de la conformité de la nuance fournie: OK Verwechslungsprüfung wurde durchgeführt: OK																
Location (1) Room temperature - Température ambiante - Raumtemperatur																
Direction (2) Required Exigé Anforderung	Yield or proof strength Limite d'élasticité Dehngrenze MPa Rp0.2% Rp1%	Tensile Strength Résistance à la traction Zugfestigkeit MPa Rm	Elongation after fracture Allongement après rupt. Bruchdehnung % 50mm 80mm	Hardness Dureté Härte HB	Yield or proof strength Limite d'élasticité Dehngrenze MPa Rp0.2% Rp1%	Tensile str. Résist. MPa Zugfestigkeit Rm	Elongation % Allongement Bruchdehnung 50mm									
1 T	220 306	250 327	520 700 652	45 45 161	201	220 306	250 327									
Impact strength test Essai de résilience Kerbschlagzähigkeitstest	C40 J(°C)	C44	Corrosion test Test de corrosion Korrosionstest	E0.2(T)/R(T) % 46												
			ASTM A262 E:OK	Internal cleanliness: A: B: C: D:												
Location of the sample (1) Emplacement de l'échantillon Lage des Probenabschnittes 1. Front - Début - Anfang 2. Back - Fin - Ende 3. Middle - Milieu - Mitte	The delivery is in accordance with the order La fourniture est conforme aux exigences de la commande Die lieferung entspricht den Bestellbedingungen	Packing list Avis d'expédition Lieferscheinnummer 2018036294-32618	Organisation inspection Organisme et/ou service contrôle Überwachungsabteilung Quality Department	25/4/2018 The inspector Le responsable Der Werkssachverständige D. Raemaekers												
Direction of the test pieces (2) Orientation des éprouvettes Probenrichtung T. Transverse - Travers - Quer L. Longitudinal - Long - Längs																

 <p>Correspondentieadres: Aperam Genk Swinnenwijweg 5, Poort Genk 7523 3600 Genk, Belgium Tel. +32 (0)89 30 21 11</p>		<b>MILL CERTIFICATE BS EN 10204/3.1</b> <b>CERTIFICAT DE RECEPTION NF EN 10204/3.1</b> <b>ABNAHMEPRUEFZEUGNIS DIN EN 10204/3.1</b>								N-Nr-N 18K0027281-01 V01																	
		Certified acc. PED 2014/68/EU Annex I § 4.3 by Certification Body 0036 of TÜV SÜD Industrie Service GmbH with cert. No. :314/2007/MUC Renounced of counter signature agreed by TÜV SÜD (9/5/2007). Approved acc. AD 2000-Merkblatt W0/TRD 100 by TÜV SÜD Industrie Service GmbH. Confirmation letter from TÜV SÜD Industrie Service GmbH of 07/05/2010 about the uniformity of coils acc. AD2000 W2 §4.1.1																									
Manufacturer's works order number N° de la commande usine productrice Werksauftragsnummer <b>80450631/04-32618/491/04</b>		Surveyor's mark Cachet de l'expert Stempel des Werkssachverständigen 		Purchaser and/or consignee Client et/ou destinataire Besteller und/oder Empfänger <b>INOX MARKET PATSALA A.E.</b> <b>NEAR STADIUM MAKEDONIKOU</b>  <b>40325 POLICHNI SALONIQUE</b> <b>GRECE</b>				Purchaser's order number N° de commande client Kundenbestellnummer <b>7/6/2018</b>																			
Product - Produit - Erzeugnis SHEETS, COLD ROLLED, FINISH 2 B TOLES, LAMINEES A FROID, FINI 2B BLECHE KALTGEWALZT, GEGLUHT+GEBEIZT, LEICHT NACHGEWALZT								Steelmaking process Mode d'élaboration de l'acier - Stahlherstellungsverfahren Prod. proces: Electric arc furnace - VOD/AOD - Continuous casting Proc. fabric.: Four à arc - VOD/AOD - Coulee continue Fertigungsablauf: Elektro-Ofen - VOD/AOD - Stranggussanlage		Product delivery condition Etat de livraison du produit - Lieferzustand  Solution treated: Hypertrempe: <b>1050 °C</b> Lösungsgegl./abgeschreckt:																	
Steel designation Désignation de l'acier Stahlbezeichnung  EN 10088-2:2014 1.4307 ASME SA 240-2017 TYPE 304L EN 10028-7:2016 1.4307		Finish Présentation Ausföhrung  2B 2B 2B		Any supplementary requirements Prescriptions supplémentaires - Zusätzliche Anforderungen				Forced air-water/air forcé-eau Gebläse Luft-Wasser																			
Identification of the product Identification du produit - Identifizierung des Erzeugnisses <b>MELTED IN BELGIUM, MADE IN BELGIUM</b>								Dimensions Dimensions - Abmessungen Thickness Epaisseur - Stärke 2.00 mm				Width Largeur - Breite 2000.00 mm		Length Longueur - Länge 4000.00 mm		Number of pieces Nb de pièces - Stückzahl <b>13</b>											
Coil n. N. Bobine - Band Nr. 81904438		Heat n. N. Coulee - Schmelz Nr. 819044		Net weight Poids net - netto Gewicht <b>1656 KG</b>																							
<b>CHEMICAL ANALYSIS - ANALYSE CHIMIQUE - CHEMISCHE ZUSAMMENSETZUNG</b>																											
Required - Exigé Anforderung		%mini %maxi		C 0.030		Si 0.75		Mn 2.00		Ni 8.00 10.50		Cr 17.50 19.50		Mo 0.100		Ti 0.015		N 0.045		S 0.031		P					
Cast Analysis Analyse coulée Analyse Schmelze				C71 0.025		C72 0.45		C73 1.44		C74 8.02		C75 18.06		C76 0.064		C77 0.002		C78 0.031		C79 0.045		C80 0.031					
Positive material identification carried out : OK Tests de vérification de la conformité de la manne fournie : OK Verwechslungsprüfung wurde durchgeführt : OK				C81 C82 C83 C84 C85 C86				C87 C88 C89 C90 C91 C92				C93 C94 C95 C96 C97 C98 C99															
Location (1) Room temperature - Température ambiante - Raumtemperatur														EN ISO 6892-1 B / A-SA 370		C20											
Direction (2) Required Exigé Anforderung														Yield or proof strength Limite d'élasticité Dehngrenze MPa		Tensile Strength Résistance à la traction Zugfestigkeit MPa		Elongation after fracture Allongement après rupt. Bruchdehnung %		Hardness Dureté Härte		Yield or proof strength Limite d'élasticité Dehngrenze MPa		Tensile str. Résist. MPa Zugfestigkeit		Elongation % Allongement. Bruchdehnung	
1		T		Rp0.2% 220		Rp1% 250		Rm 520 700		50mm 45		80mm 45		HRBW 92		Rp0.2% 309		Rp1% 332		Rm 643		50mm 53		80mm 50		HRBW 86	
Impact strength test Essai de résilience Kerbschlagzähigkeitstest				Corrosion test Test de corrosion Korrosionstest				E0.2(T) R(T) % 48				C40 C41 C42 C43 C44 C45 C46 C47 C48 C49															
EN ISO 3651/2 - A-OK														Internal cleanliness: A B C D		C50 C51 C52 C53 C54 C55 C56 C57											
Location of the sample (1) Emplacement de l'échantillon Lage des Probenabschnittes 1. Front - Début - Anfang 2. Back - Fin - Ende 3. Middle - Milieu - Mitte				The delivery is in accordance with the order La fourniture est conforme aux exigences de la commande Die Lieferung entspricht den Bestellbedingungen				Packing list Avis d'expédition Lieferscheinnummer <b>2018041001-32618</b>				Organisation inspection Organisme et/ou service contrôle Überwachungsabteilung <b>Quality Department</b>  <b>12/6/2018</b>  The inspector Le responsable <b>D. Raemaekers</b>															
Direction of the test pieces (2) Orientation des éprouvettes Probenrichtung T. Transverse - Travers - Quer L. Longitudinal - Long - Längs				Marking, inspection and measurement : without objection Contrôle de marquage, d'aspect et de dimensions : satisfaisants Prüfung der Stempelung, des Oberflächenaspekts und der Abmessungen : ohne Beanstandung				D01				Z01 A10 Z02															

		<b>MILL CERTIFICATE BS EN 10204/3.1</b> <b>CERTIFICAT DE RECEPTION NF EN 10204/3.1</b> <b>ABNAHMEPRUEFZEUGNIS DIN EN 10204/3.1</b>										N-Nr-N <b>18K0027283-01 V01</b>							
Correspondentieadres: Aperam Genk Swinnewijerweg 5, Poort Genk 7523 3600 Genk, Belgium Tel. +32 (0)89 50 21 11		Certified acc.PED 2014/68/EU Annex I § 4.3 by Certification Body 0036 of TUV SUD Industrie Service GmbH with cert.No.:314/2007/MUC.Renounced of counter signature agreed by TUV SUD (9/5/2007). Approved acc.AD 2000-Merkblatt W0/TRD 100 by TUV SUD Industrie Service GmbH.Confirmation letter from TUVSUD Industrie Service GmbH of 07/05/2010 about the uniformity of coils acc.AD2000 W2 §4.1.1																	
Manufacturer's works order number N° de la commande usine productrice Werksauftragsnummer <b>80450532/02-32618/492/02</b>		Surveyor's mark Cachet de l'expert Stempel des Werkssachverständigen 		Purchaser and/or consignee Client et/ou destinataire Besteller und/oder Empfänger <b>INOX MARKET PATSALA A.E.</b> <b>NEAR STADIUM MAKEDONIKOU</b>  <b>40325 POLICHNI SALONIQUE</b> <b>GRECE</b>				Purchaser's order number N° de commande client Kundenbestellnummer <b>7/6/2018</b>											
<b>Product - Produit - Erzeugnis</b> SHEETS, COLD ROLLED, FINISH 2 B TOLES, LAMINEES A FROID, FINI 2B BLECHE,KALTGEWALZT,GEGLUEHT+GEBEIZT,LEICHT NACHGEWALZT		Steel designation Désignation de l'acier Stahlbezeichnung  EN 10088-2-2014 1.4307 ASME SA 240-2017 TYPE 304L EN 10028-7-2016 1.4307		Finish Présentation Auslieferung  2B 2B 2B		Steelmaking process Mode d'élaboration de l'acier - Stahlherstellungsverfahren Prod.proces: Electric arc furnace - VOD/AOD - Continuous casting Proc.fabric.: Four à arc - VOD/AOD - Coulee continue Fertigungsablauf: Elektro-Ofen - VOD/AOD - Stranggussanlage				Product delivery condition Etat de livraison du produit - Lieferzustand  Solution treated: Hypertrempé: <b>1050 °C</b> Loesungsgegl-abgeschreckt: Forced air-water/air forcé-eau Gebläse Luft-Wasser									
<b>Identification of the product</b> Identification du produit - Identifizierung des Erzeugnisses <b>MELTED IN BELGIUM, MADE IN BELGIUM</b>		Dimensions Dimensions - Abmessungen Thickness Epaisseur - Stärke 5.00 mm				Width Largeur - Breite 1500.00 mm		Length Longueur - Länge 3000.00 mm		Number of pieces No de pièces - Stueckzahl <b>5</b>									
Coil n. N.Boîlle - Band Nr. 81757788		Heat n. N.Coulée - Schmelz Nr. 315660		Net weight Poids net - netto Gewicht <b>884 KG</b>															
<b>CHEMICAL ANALYSIS - ANALYSE CHIMIQUE - CHEMISCHE ZUSAMMENSETZUNG</b>																			
Required-Exigé Anforderung		Cast Analysis Analyse coulées Analyse Schmelze		C	Si	Mn	Ni	Cr	Mo	Ti	N	S	P						
				0.030	0.75	2.00	8.00 10.50	17.50 19.50			0.100	0.015	0.045						
				0.022	0.41	1.42	8.02	18.08			0.072	0.003	0.032						
Positive material identification carried out : OK Tests de vérification de la conformité de la nuance fournie : OK Verwechslungsprüfung wurde durchgeführt : OK																			
Location (1)		MECHANICAL PROPERTIES - PROPRIETES MECANQUES - MECHANISCHE WERTE EN ISO 6892-1 B / A-SA 370																	
Direction (2)		Yield or proof strength Limite d'élasticité Dehngrenze MPa				Tensile Strength Résistance à la traction Zugfestigkeit MPa		Elongation after fracture Allongement après rupt. Bruchdehnung %		Hardness Dureté Härte		Yield or proof strength Limite d'élasticité Dehngrenze MPa		Tensile str. Résist. MPa Zugfestigkeit		Elongation % Allongement Bruchdehnung			
Required Exigé Anforderung		Rp0.2% Rp1%		Rm		A5 50mm		HRBW		Rp0.2% Rp1%		Rm A5							
Obtained Obtemi Ergebnisse		220 250		520 700		45 45		92		C16 C17		C18 C19							
Impact strength test Essai de résilience Kerbschlagzähigkeitstest		Corrosion test Test de corrosion Korrosionstest				E0.2(T)/R(T) %													
C40 (KJ/m²)		EN ISO 3651/2 - A:OK				51				C53 C54 C55		C56 C57							
Location of the sample (1) Emplacement de l'échantillon Lage des Probenabschnittes 1. Front - Début - Anfang 2. Back - Fin - Ende 3. Middle - Milieu - Mitte		The delivery is in accordance with the order La fourniture est conforme aux exigences de la commande Die lieferung entspricht den Bestellbedingungen				Packing list Avis d'expédition Lieferscheinnummer <b>2018041001-32618</b>		Organisation inspection Organisme et/ou service contrôle Ueberwachungsabteilung <b>Quality Department</b>		12/6/2018  The inspector Le responsable <b>D. Raemaekers</b>		A10		A05					
Direction of the test pieces (2) Orientation des éprouvettes Probenrichtung T. Transverse - Travers - Quer L. Longitudinal - Long - Laengs		Marking, inspection and measurement : without objection Contrôle de marquage, d'aspect et de dimensions : satisfaisants Prüfung der Stempelung, des Oberflächenaspekts und der Abmessungen : ohne Beanstandung				D01		D01		D01		D01		D01					

		Message: 4000 via Direzione 16 (telefono) email: info@marcegaglia.com Tel: +39 02764811 Fax: +39 0276481000 www.marcegaglia.com		Type: Inspection Certificate 3.1 EN 10204		THIS DOCUMENT HAS PRODUCED AUTOMATICALLY AND IS VALID WITHOUT SIGNATURE		Number: 10518564036		Issued On: 20/09/2018		
WELDING PROCESS QUALIFICATION: ALL THE LASER WELDING PROCESS ARE QUALIFIED ACCORDING EUROPEAN PRESSURE EQUIPMENT DIRECTIVE PED 97/23/EC BY THE NOTIFIED BODY N.1293 EUROPED WITH WELDING PROCEDURE QUALIFICATION WPCR N° PM0607A001 Registration no. 10M203 AND WPCR N° PM067A002 Registration no. 11M017. STILL VALID UNDER PED 2014/68/EU PER ARTICLE 46 CLAUSE 3.												
Customer: PROMETALBAKLI S.A. PO BOX 10 19018 THESSI LOUTSA-MAGOULA ATTI EL				Code: 0000082538		Consignee: PROMETALBAKLI S.A. THESSI XSYROPIGADO 19600 MANDRA ATTIKIS EL		Delivery No: 8305819161 Of: 20/09/2018		Quality Control: G.M.D./O.M. S.Toscano Plant Of Fori:		Pages: 3/18
Material: S9000845				Test specification: Stainless steel grade: TP 304 1.4301 X5CrNi18-10 Tolerances: EN10305-6 EN10219-2 ASTM A564				Welding process: HIGH FREQUENCY INDUCTION WELDING		Order No: 1181056878/220		Client Code: 19001-2018
Description: TXR 50X20X1,5X6000 TP304 Z				Quantity MTL: 486 18		Quantity KG: 706 28		Quantity PZZ: 81 3		Delivery conditions: Reworks: BRUSHED		Part Number: Client Date: 16/05/2018
Item	Identification Nr	Heat	Quantity MTL	Quantity KG	Quantity PZZ	Delivery conditions	Reworks	Part Number	Client Date	WE CERTIFY THAT THE ABOVE MENTIONED PRODUCTS COMPLY WITH THE TERMS OF ORDER CONTRACT AND THE STANDARDS REDDIAL IN THE PRESENT TEST CERTIFICATE		
1	18K0010257	0453195	486	706	81		BRUSHED					
2	18K0010257	0453091	18	28	3							
Identification Nr	Chemical Type	C (%)	Si (%)	Mn (%)	P (%)	S (%)	N (%)	Cr (%)	Ni (%)			
18K0010257	RAW MATERIAL	.021	.330	1.700	.0270	.0010	.0650	18.040	8.040			
18K0010257	RAW MATERIAL	.024	.310	1.680	.0280	.0010	.0700	18.020	8.040			
Identification Nr	Type of mechanical test	Rp 0.2 [MPa]	Rp 1.0 [MPa]	Rm [MPa]	A5 (%)	MARCEGAGLIA SPECIALTIES FORLIMPOPOLI PLANT SYSTEM CERTIFICATIONS QUALITY SYSTEM CERTIFIED ACCORDING TO EN 9001:2008 AND ISO/TS 18949:2009 AND ISO 3854:2006 AND A SAFETY SYSTEM CERTIFIED ACCORDING TO DIN EN 18001:2007 AND AN ENVIRONMENTAL SYSTEM CERTIFIED ACCORDING TO ISO 14001:2004. MARCEGAGLIA SPECIALTIES FORLIMPOPOLI PRODUCT CERTIFICATION DVGW ACCORDING TO GW541 LAGER AND TIG WELDED TUBES STAINLESS STEEL GRADE 1.4301 DIA FROM 15.00 TO 108.00MM AND GRADE 1.4521 FROM 15.00 TO 54.00MM. TIG WELDED WOVENS AND RED ANNEAL PHOSPHORUS 4.0 LAGER AND TIG WELDED TUBES STAINLESS STEEL GRADE 1.4301, 1.4306, 1.4307, 1.4401, 1.4404, 1.4541, 1.4571, 1.4435, 1.4439 THICKNESS FROM 0.80 TO 4.00MM AND DIAMETERS FROM 8.00 TO 283.00 MM. EHEDD FOR DAIRY TUBES TX1015. TFD - EUROPEAN DIRECTIVE 1935/2004 FOR DAIRY TUBES TX1003, TX1014, TX1015.						
18K0010257	TUBE	284	314	624	50.3							
18K0010257	TUBE	284	314	624	50.4							
NON DESTRUCTIVE TESTS ANTIMARKING TEST: CONFORM VISUAL INSPECTION AND DIMENSIONAL CONTROLS: CONFORM						DESTRUCTIVE TESTS FLATTENING TEST ACCORDING TO EN ISO 8462:2004: CONFORM TENSILE TEST ACCORDING TO EN ISO 6893-1:2009						
Marking												
Remarks: THE CHEMICAL COMPOSITION REFERS TO THE RAW MATERIAL USED ACCORDING TO EN 10088-2 AND 10088-7												



CERTIFICATE - ZEUGNIS - CERTIFICAT  
**EN 10204-3.1**  
 2527808-EN

Invoice No. Page  
 Rechnung Nr. Seite  
 N° de facture Page  
 6610/1000707686 1/1

Business Unit / QCM  
 Avesta Works / Jerker Sterneland

Date Datum Date  
 25-Sep-2018

Load, Ladung, Charge No  
 GR/176305

Acknowledged ID, Bestätigung, Commande ID  
 6610/360015451

Your ref, Ihre Ref., Votre ref 13068.		Requirements, Anforderungen, Exigences <b>ASTM A 240M-17</b> <b>ASME BPVC SEC II PART A SA-240/SA-240M Ed 2017</b> <b>EN 10088-2:2014</b> <b>EN 10028-7:2016</b> <b>AD 2000 W2, W10 &amp; EN 10028-7</b> <b>NACE MR0175 / ISO 15156-3:2015</b> <b>EN 10088-4:2009</b> <b>EN ISO 9445 / ASTM A 480</b>	
Buyer, Besteller, Acheteur PrometalBakli S.A. P.O. Box 10 GR 19018, Magoula Attikis GREECE			
Consignee, Empfänger, Lieu de livraison PrometalBakli S.A.			

Mark of Manufacturer Zeichen des Lieferwerkes Signe de producteur 	Process Erschmelzungsart Mode de fusion E+AOD	Inspector's stamp Zeichen des Sachverständigen Poison de l'expert 	Grade, Werkstoff, Nuance Outokumpu Supra 316L/4404 TYPE 316 TYPE 316L 1.4401 1.4404
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Product, Erzeugnisform, Produit  
 Stainless Steel Cold Rolled, Coil-Plate  
 finish 2B, cut edge

Line Reihe Ligne	Item Position Poste	Heat-Lot No Schmelz-Lot Nr Coulée n° - Lot No	Size Abmessungen Dimensions	Pieces Stückzahl Nombre	Quantity / Unit Menge / Einheit Quantité / Unité
1	5	583409-002	2,00 X 2000 X 4000 mm	16	2068 KG

Chemical composition - Chemische Zusammensetzung - Composition chimiques

	C	Si	Mn	P	S	Cr	Ni	Mo	Ti	Nb	Cu	Co	N
Heat	.016	.46	1.34	.031	.002	17.15	10.08	2.04	.005	.017	.41	.21	.047

Radioactive contamination check acc. IAEA recommendations: Approved

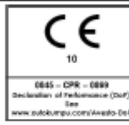
Test results - Prüfergebnisse - Résultats desais (1N/mm² = 1 MPa) F = Front - Antan - Debut B = Back - Ende - Fin T = Transverse - Quer - Travers


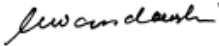

Test Ref	Temp °C	RP 0.2 N/MM2	RP 1.0 N/MM2	RM N/MM2	2" %	A80 %	HB HB
Min	+20	240	270	530	40	40	
Max				680			217
F T	+20	335	366	634	53	53	160
B T		330	357	634	52	52	160

**Material conforms to NACE MR0175 / ISO 15156-3 in supplied condition**  
 Corrosion acc. ASTM A 262-E, EN ISO 3651-2A: Approved  
 Heat treatment / Solution annealed: Material temp minimum 1040 °C / Quenched (forced air + water)  
 Steel grade verification (PMI-spectroscopic): Approved  
 Marking, visual insp. and gauge measurement: Approved  
 Certified acc. Pressure Equipment Directive (2014/68/EU) by TÜV CERT-Certification body  
 for pressure equipment of the TÜV NORD Systems; notified body, reg-no. 0045.

Outokumpu Stainless AB Telephone: + 46 (0)226 811 73  
 Business Area Europe Fax: + 46 (0)226 816 46  
 AVESTAWORKS V.A.T no: SE556001874801  
 SWEDEN  
 Regoffice: Stockholm SWEDEN, Regno: 556001-8748

This material is found to comply with order requirements  
  
 Joakim Johansson  
 Authorized Inspector



Herstellerwerk / Manufacture's works / Usine productrice 		Art der Prüfbescheinigung / Type of inspection document / Type du document <b>ABNAHMEPRUEFZEUGNIS</b> INSPECTION CERTIFICATE CERTIFICAT DE RECEPTION nach / according to / suivant <b>EN 10204-3.1</b>				Bescheinigungs-nr. / Document number / Numéro de document 10.11.2017 <b>1000665937 /</b> Seite / Page / Page: 1 / 1					
35667 Dillenburg PF 1751  PrometalBakli S.A. Loutsa, P.O. Box 10 GR-19018 Magoula		Besteller/Empfänger / Customer/Consignee / Acheteur/Destataire PrometalBakli S.A., Magoula		Kundenbestellnr. / Customer's order number / Numéro de la commande du client 12798		Werksauftragsnr. / Manufacturer's works order no/ N° de la commande de l'usine productrice 900506020 / 006		Lieferanzeige Nr. / Delivery Note No. / Avis d'expédition N°. 87897047 / 010		Erzeugnis / Product / Produit BAND/COIL/ROULEAU	
Lieferbedingungen / Terms of delivery / Conditions de livraison EN 10088-2 ASTM A 240/A 240M ASME SA 240/SA 240M Sec.II Part A Ed.2015				Stahlsorte und Gütegruppe / Steel grade and quality / Nuance de l'acier NIROSTA 4307 / 1.4307 TYPE 304							
Kundenmaterial-Nr. Customer's material number N° de matière du client		Maße des Erzeugnisses ( Dicke / Breite / Länge ) Product dimensions ( Thickness / Width / Length ) Dimensions du produit ( Epaisseur / Largeur / longueur )				Herstellart Steelmaking proc. Mode d'elabor.		Ausführung Finish Fini			
		3,0 mm x 1500,0 mm				AOD		III d / 2R			
Paket-Nr. Packing-No. N° Palette	Stückzahl No of pieces N° de pièces	Ist-Gewicht Actual weight Masse effective	Ident.-Nr. Erzeugnis Ident.-No of product Ident.-N° du produit	Schmelzennr. Cast number Id. de la coulée	Proben-Id. Sample Id. Empl. du prélèvement	Proben-Id. Sample Id. Empl. du prélèvement					
5686564	1	15930 KG	470782	320567	1003373136	1003373137					
		1	15930 KG								
Schmelze / Cast-No./ Coulée N°		Chemische Zusammensetzung / Chemical composition/ Composition chimique									
320567		% C	% Si	% Mn	% P	% S	% Cr	% Ni	% N		
		0,013	0,35	1,53	0,031	0,0010	18,30	8,00	0,039		
Prüflos/Inspection lot Lot de contrôle Proben-Id./-Lage Sample Id./-Position Ident./empl. du prélèvement		QUER									
		Rp0,2%	Rp1%	Rm	A5	A2"	HRB	GL/BT	GRA	SP1	
		MPa	MPa	MPa	%	%	HRB	%	%	%	
1003373136		311	343	619	54,2	54,2	80,0	42,0	2	2	
1003373137		300	331	612	61,6	61,6	80,0	40,0	2	2	
Beständig gegen Interkrist. Korros./Resistant to intercryst. coros./Resistant à la coros. intercrist.: Maße-Oberfläche/Dimensions-Surface/Dimensions-Surface: Verwechslungsprüfung (Spektralanalyse)/Test of identity(spectrum analysis)/Contrôle d'identification (analyse spectrale): WAERMEBEHANDLUNG : 1050 GRAD C / LUFT TRAITEMENT THERMIQUE : 1050 GRADE C / AIR HEAT - TREATMENT : 1050 DEGREE C / AIR GL/BT Glanz bei 20 Grad						EN ISO 3651-2 I.O. I.O. I.O.					
Aussteller der Bescheinigung / Originator of the document / Auteur du document Outokumpu Nirosta GmbH Dieses Zeugnis wurde maschinell erstellt Werk Dillenburg  Abnahmebeauftragter/ Inspector/ Expert Jens Lew andow ski Tel.: + 49 (2771) 390-315 Certificates.Nirosta@outokumpu.com				Stempel des (der) Abnahmebeauftragten Receiving agent's stamp Poinçon de l'agent réceptionnaire 		Datum der Ausstellung und Bestätigung Date of issue and validation date d'émission et validation 10.11.2017					
Die Lieferung entspricht der Bestellung The delivery meets the order agreement La livraison correspond à la commande											

## Certificate of the grease applied to all the surfaces that come in contact with the bin



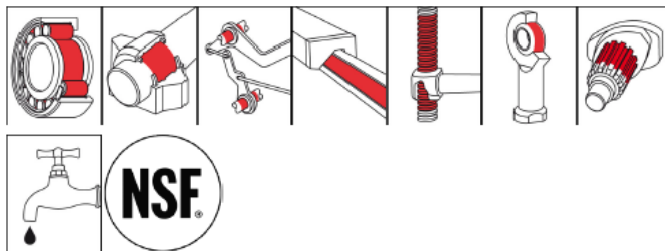
### PRODUCT INFORMATION

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#### **OKS 476**

#### **Multipurpose Grease for Food Processing Technology**

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#### **Description**

Universal multipurpose grease for food processing technology for lubricating rolling and friction bearings and other machine elements.

#### **Applications**

- Grease lubrication of rolling and friction bearings, joints, linear drives and chains
- Lubrication of fittings, seals, moulded parts and elements of elastic rubber materials in the hot- and cold-water segment
- Lubrication of fittings or machines in dairies, breweries, bakeries, slaughterhouses, etc.

#### **Advantages and benefits**

- NSF H1 registered
- Reduces wear
- Excellent resistance to oxidation and ageing
- Resistant to hot and cold water, water vapour, watery-alkaline and acidic disinfectants and cleaning agents

#### **Branches**

- Rubber and plastic processing
- Paper and packaging industry
- Rail vehicle technology
- Logistics
- Plant and machine (tool) engineering
- Chemical industry
- Iron and steel industry
- Municipal services
- Shipbuilding and marine technology
- Glass and foundry industry
- Catering equipment and food processing technology



PRODUCT INFORMATION

**OKS 476**  
**Multipurpose Grease for Food Processing Technology**

**Application tips**

Clean the lubricating points well for optimal effect. Before filling for first time, remove anti-corrosion agent. Fill the bearing such that all functional surfaces are certain of being greased. Fill normal bearings up to about 1/3 of the free space inside the bearing. Low-speed bearings (DN value < 50,000) and their housings should be filled completely. The bearing and machine manufacturer's instructions should be observed. Subsequent lubrication at the lubrication nipples by grease gun or by automatic lubrication system. Assess the lubrication frequency and quantity on basis of service conditions. If old grease cannot be removed, restrict the quantity of grease so as to avoid overlubricating the bearing. If lubrication frequencies tend to be low, you should aim for a full grease change. Only mix with suitable lubricants.

**Packaging**

- 400 ml Cartridge
- 1 kg Can
- 5 kg Hobbock
- 25 kg Hobbock
- 180 kg Drum

**Technical Data**

	Standard	Conditions	Unit	Value
<b>Main components</b>				
base oil				semi-synthetic oil
thickener				aluminium-complex soap
<b>Application related technical data</b>				
DN value (dm x n)			mm/min	400,000
colour				white
consistency	DIN 51 818	DIN ISO 2137	NLGI grade	2
density (at 20°C)	DIN 51 757		g/cm <sup>3</sup>	0.92
drop point	DIN ISO 2176		°C	> 220
four-ball test rig welding load	DIN 51 350-4		N	2,200
lower operating temperature	DIN 51 805	≤ 1400hPa	°C	-30
marking	analogue to DIN 51 502			KP2K-30
upper operating temperature			°C	110
viscosity at (100°C)	DIN 51 562-1	base oil	mm <sup>2</sup> /s	22
viscosity at (40°C)	DIN 51 562-1	base oil	mm <sup>2</sup> /s	240
water resistance	DIN 51 807-1	3h/90°C	Degree 0-3	1
worked penetration	DIN ISO 2137	60DH	0.1 mm	265-295
<b>Properties and approvals</b>				
approval for food processing technology				NSF H1, Reg.-Nr. 137619

**OKS Spezialschmierstoffe GmbH**

Ganghoferstraße 47  
 82216 Maisach  
 Phone: +49 (0) 8142 3051 - 500  
 info@oks-germany.com  
 www.oks-germany.com



The information in this publication reflects state-of-the-art technology, as well as extensive testing and experience. Due to the diversity of possible applications and technical realities, they can only serve as recommendations and are not arbitrarily transferable. Therefore, no obligations, liability or warranty claims can be derived from them. We only accept liability for the suitability of our products for particular purposes, and for certain properties of our products, in the event that we have accepted such liability in writing in the individual case. Any case of justified warranty claims shall be limited to the delivery of replacement goods free of defects, in the event that this subsequent improvement fails, to reimbursement of the purchase price. Any and all further claims, in particular the liability for consequential injuries or damage, shall always be excluded. Prior to use, the customer must conduct its own testing to prove suitability. The data are subject to change for the sake of progress. \* = Registered trademark  
 Safety data sheet for industrial and commercial users is available for downloading under [www.oks-germany.com](http://www.oks-germany.com). Our Customer and Technical service will be pleased to help should you have any further questions.

# PL-450

## Seals certificate

Datum / date 19.08.2009	<b>Werkstoffdatenblatt</b> <b>material test report</b>	
Revision / revision 1		
Seite / page 1 von / of 1		

Werkstoffnummer material number	<b>1180-14601</b>	Werkstofftyp material type	<b>FKM 80</b>
Farbe colour	braun brown		

Eigenschaft property	Einheit unit	Prüfmethode test method	Prüfparameter test parameter	Wert value
Härte hardness	Shore A	ASTM D 2240		78
Reißfestigkeit tensile strength	MPa	ASTM D 412 C		12,3
Reißdehnung ultimate elongation	%	ASTM D 412 C		201
Weiterreißfestigkeit tear resistance	N/mm	ASTM D 624 B		31
Dichte specific gravity	g/cm <sup>3</sup>	ASTM D 297		2,19
Tieftemp.beständigkeit low temp. resistance	°C	ASTM D 2137 A	brittleness no cracks after 3 min. at	-25
Druckverformungsrest compression set	%	ASTM D 395 B	22h / 175°C	11
Druckverformungsrest compression set	%	ASTM D 395 B	22h / 200°C	16

Eigenschaftsänderungen nach Alterung changes of properties after ageing							
Medium medium	Prüfmethode test method	Zeit time	Temperatur temperature °C	Härte hardness Punkte points	Reiß- festigkeit tensile strength %	Reiß- dehnung ultimate elongation %	Volumen volume %
Luft air	ASTM D 573	70	250	±0	-4	-3	-2,5
Luft air	ASTM D 573	70	275	+4	-30	+12	-7,1
ASTM fluid 101	ASTM D 471	70	200	-9	-22	+8	+9,8
ASTM oil 7700	ASTM D 471	70	200	-14	-21	-3	+14,9
Kraftstoff C ASTM fuel C	ASTM D 471	70	23	-4	-10	+6	+4,1
ASTM Oil 1 ASTM oil 1	ASTM D 471	70	150	-2	+1	-9	+1,2
ASTM IRM oil 903	ASTM D 471	70	150	-2	-1	-7	+1,5

Werkstoffzulassungen material approvals	
Die oben angegebenen Daten sind nach bestem Wissen und mit modernen Laborstandards an genormten Prüfkörpern ermittelt worden. Insbesondere beim Vergleich dieser Daten mit Werten, die an Fertigteilen ermittelt werden, kann es zu Abweichungen kommen.	The above indicated data were determined to the best knowledge according to modern laboratory standards on standardised test specimen. If these data are compared with data which were determined on finished parts it may come to variations.

## Duo tubing certificate same as ELV

**Bearings & Chain certificate**

# SKF Authorized Distributor

This certifies that

## Karampatzaki V. Eleni

located at 199, Monastiriou str., 546 27, Thessaloniki, Greece is an Authorized Distributor  
and this is valid from 01 January 2019 to 31 December 2019



A handwritten signature in blue ink, appearing to read "Rania Patsiopoulos".

Rania Patsiopoulos  
Managing Director, SKF Hellas  
Athens, January 03, 2019

A handwritten signature in blue ink, appearing to read "Nikos Lentzas".

Nikos Lentzas  
Distributor Development Manager, SKF Hellas  
Athens, January 03, 2019

The SKF logo in white text on a blue background, positioned at the end of a blue horizontal bar that spans the width of the page.

**Rubber on lid certificate**

**a. karassava & co.**

rubber processing

komvos TEI Sindos PO box 95 57400

Thessaloniki GREECE

tel. 2310799446 fax. 2310796144

VAT. 092548891

[www.karassavasrubber.gr](http://www.karassavasrubber.gr)

e-mail :[info@karassavasrubber.gr](mailto:info@karassavasrubber.gr)



**declaration**

this document declares that the product " **front door product discharge rubber**" that our company supplies to:

**N. LAKIDIS SA**

is food approved and suitable for contact with food.  
The above mentioned product is manufacturer according to rules  
and legislation as described by EC regulation **1935/2004**,  
**2023/2006** and **FDA 177.2600**

For A. KARASSAVA & Co

Fotis Paleologos|



5309098 | DRW |

# APPROVAL CERTIFICATE

DNV·GL

Certificate No. **94 894 - 10 HH**

### TECHNICAL DATA

Type	LFR-D	LF-D
Connection	G1/8 to G1	
Press. Reg. Range [bar]	0.5 to 12 or 7	-
Supply press. [bar]	1 to 16	0 to 16
Supply press. AKA [bar]	2 to 12	2 to 12
Supply press. MICRO [bar]	1 to 10	0 to 10
Temp. Range [°C]	-10 to 60	
Housing	die-cast Zn	
Housing MICRO	wrought-alloy AL	die-cast Al
Bowl	polycarbonate with metal bowl guard	
Seals	NBR	

Type	FRC-D	LOE-D
Connection	G1/8 to G1	
Press. Reg. Range [bar]	0.5 to 12 or 7	-
Supply press. [bar]	1 to 16	0 to 16
Supply press. AKA [bar]	2 to 12	-
Supply press. MICRO [bar]	1 to 10	0 to 10-
Temp. Range [°C]	-10 to 60	
Housing	die-cast Zn	
Housing MICRO	wrought-alloy AL	die-cast A
Bowl	polycarbonate with metal bowl guard	
Seals	NBR	

5309098 | DRW | - 1207514

Valid until **2020-07-07**  
 Page **2 of 2**  
 File No. **XI.B.07**  
 Hamburg, **2015-06-02**

**DNV GL**

www.dnvgl.com

  
 i.v.  
 Olaf Drews

  
 i. A. P. Gierhan  
 Peter Gierhan



## Erklärung

Datum  
23. Juni 2015

über den Einsatz von nichtelektrischen Geräten in explosionsgefährdeten Bereichen der Zonen 1, 2, 21, und 22

Folgende Drossel-Rückschlagventile fallen nicht unter den Anwendungsbereich der Richtlinie 94/9/EG. Durch eine Zündgefahrenanalyse wurde nachgewiesen, dass die Komponenten keine eigenen potentiellen Zündquellen aufweisen. Sie können bei bestimmungsgemäßer Verwendung in explosionsgefährdeten Bereichen der Zonen 1, 2, 21 und 22 eingesetzt werden.

<b>GRLA, Standard</b>	<b>GRLA-M5-B</b>	<b>151160</b>
	<b>GRLA-1/8-B</b>	<b>151165</b>
	<b>GRLA-1/4-B</b>	<b>151172</b>
	<b>GRLA-3/8-B</b>	<b>151178</b>
	<b>GRLA-1/2-B</b>	<b>151179</b>
	<b>GRLA-3/4-B</b>	<b>151180</b>
	<b>GRLA-M5-PK-3-B</b>	<b>151161</b>
	<b>GRLA-M5-PK-4-B</b>	<b>151162</b>
	<b>GRLA-1/8-PK-3-B</b>	<b>151166</b>
	<b>GRLA-1/8-PK-4-B</b>	<b>151167</b>
	<b>GRLA-1/8-PK-6-B</b>	<b>151168</b>
	<b>GRLA-1/4-PK-4-B</b>	<b>151173</b>
	<b>GRLA-1/4-PK-6-B</b>	<b>151174</b>
	<b>GRLA-M5-RS-B</b>	<b>151163</b>
	<b>GRLA-1/8-RS-B</b>	<b>151169</b>
	<b>GRLA-1/4-RS-B</b>	<b>151175</b>
<b>GRLZ, Standard</b>	<b>GRLZ-M5-B</b>	<b>151183</b>
	<b>GRLZ-1/8-B</b>	<b>151188</b>
	<b>GRLZ-1/4-B</b>	<b>151195</b>
	<b>GRLZ-M5-PK-3-B</b>	<b>151184</b>
	<b>GRLZ-M5-PK-4-B</b>	<b>151185</b>
	<b>GRLZ-1/8-PK-3-B</b>	<b>151189</b>
	<b>GRLZ-1/8-PK-4-B</b>	<b>151190</b>
	<b>GRLZ-1/8-PK-6-B</b>	<b>151191</b>
	<b>GRLZ-1/4-PK-4-B</b>	<b>151196</b>
	<b>GRLZ-1/4-PK-6-B</b>	<b>151197</b>
	<b>GRLZ-M5-RS-B</b>	<b>151186</b>
	<b>GRLZ-1/8-RS-B</b>	<b>151192</b>
	<b>GRLZ-1/4-RS-B</b>	<b>151198</b>

**Festo AG & Co. KG**

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Rülter Straße 62  
73734 Esslingen

Seite(n)  
1 von 3

GRLA, Standard	GRLA-1/8-QS-6-RS-B	162965
	GRLA-1/8-QS-8-RS-B	162966
	GRLA-1/4-QS-6-RS-B	162967
	GRLA-1/4-QS-8-RS-B	162968
	GRLA-3/8-QS-6-RS-B	162969
	GRLA-3/8-QS-8-RS-B	162970
GRLA, Mini	GRLA-M3	175038
GRLZ, Mini	GRLZ-M3	175040
CRGRLA, korrosionsbeständig	CRGRLA-M5-B	161403
	CRGLRA-1/8-B	161404
	CRGLRA-1/4-B	161405
	CRGLRA-3/8-B	161406
	CRGLRA-1/2-B	161407
GR/ GRA, Leitungseinbau	GR-M3	15899
	GR-M5-B	151213
	GRO-M5-B	151214
	GR-M5x2-B	152611
	GR-1/8-B	151215
	GRO-1/8-B	151216
	GR-1/8x2-B	152612
	GRA-1/4-B	6509
	GR-3/8-B	6308
	GR-1/2	3720
	GR-3/4	2103
	GR-1/4	2101
GR, Leitungseinbau	GR-QS-3	193965
	GRO-QS-3	193971
	GR-QS-4-LF	193966
	GR-QS-4	193967
	GRO-QS-4	193972
	GR-QS-6-LF	193968
	GR-QS-6	193969
	GRO-QS-6	193973
GR-QS-8	193970	
GRXA, Funktionskombination	GRXA-HG-1/8-QS4	525667
	GRXA-HG-1/8-QS6	525668
	GRXA-HG-1/4-QS6	525669
	GRXA-HG-1/4-QS8	525670

Die technischen Daten der genannten Komponenten sowie die nachstehenden Hinweise müssen beachtet werden:

- Die Geräte dürfen nur mit Druckluft betrieben werden. Das Ansaugen der Druckluft darf nicht aus explosionsgefährdeten Bereichen erfolgen.
- Zur Vermeidung von elektrostatischen Aufladungen und Potenzialunterschieden sind alle Metallteile in den Potenzialausgleich der Anlage mit einzubeziehen. Um dies zu gewährleisten, müssen Kunststoffdichtringe und Kunststoff/Metall-Dichtringe durch eine rein metallische Dichtung ersetzt werden.
- Die Funktionskombinationen GRXA müssen vom Al-Deckel zu anderen geerdeten Metallteilen einen Mindestabstand von 3 mm einhalten.
- Ausströmende Abluft oder Leckage kann abgelagerten Staub aufwirbeln und eine explosionsfähige Staubatmosphäre hervorrufen.

Änderungen am Produkt bleiben vorbehalten.

i.A.

  
Stefan Majesch  
Leitung Development Support Functions



i.A. T. Haußer  
Petra Haußer  
Product Certification

5436023 | DRW | - | 181095

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# CERTIFICATE OF COMPLIANCE

Certificate Number 20161110-E232949  
 Report Reference E232949-20030130  
 Issue Date 2016-NOVEMBER-10

Issued to: FESTO AG & CO KG  
 RUITER STR 82  
 73734 ESSLINGEN GERMANY

This is to certify that representative samples of PROXIMITY SWITCHES  
 See Addendum Page

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 60947-5-2, LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR - PART 5-2: CONTROL CIRCUIT DEVICES AND SWITCHING ELEMENTS - PROXIMITY SWITCHES.  
 CAN/CSA C22.2 No. 60947-5-2, Control circuit devices and switching elements - Proximity switches.

Additional Information: See the UL Online Certifications Directory at [www.ul.com/database](http://www.ul.com/database) for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.

Look for the UL Certification Mark on the product.

*B. Mahrenholz*  
 Bruce Mahrenholz, Director North American Certification Program  
 UL LLC



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# CERTIFICATE OF COMPLIANCE

Certificate Number	20161110-E232949
Report Reference	E232949-20030130
Issue Date	2016-NOVEMBER-10

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Series SMT or SME, followed by 8, 8E, 8F, 8G, 8M, 8M-A, 8SL,10, 10M, 10F or 10G, may be followed by PS, PS-LED, DS, ZS, NS, DO, PO, PNS or PSO, may be followed by 24V, may be followed by K or E, may be followed by any number between 0,05 and 30,0, may be followed by L or Q, may be followed by N, may be followed by OE, M5D, M8D, M8 or M12, may be followed by B, SA, CS or EX2.

Series CRSMT-8-PS may be followed by Kxx,x (where xx,x is any number between 0,05 and 30), may be followed by LED, may be followed by 24.

Series SMAT-8, followed by A thru Z, followed by -S50-IU-M8, SMAT-8, followed by A thru Z, followed by -U-E-0,3-M8D, SMAT-8, followed by A thru Z, followed by -S50-IU-E-0,3-M8D.

Above mentioned models are only suitable for use in a Class 2 circuitry.

*B. Mahholz*  
 Bruce Mahholz, Director North American Certification Program  
 UL LLC



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# APPROVAL CERTIFICATE

DNV·GL

This is to certify, that the undernoted products have been approved in accordance with the relevant requirements of the DNV GL Approval System.

Certificate No. **94 897 - 10 HH**

Company **Festo AG & Co. KG**  
**Ruiter Straße 82**  
**73734 Esslingen, GERMANY**

Product **PNEUMATIC COMPONENTS**  
**ACCESSORIES**

Type **PUSH-IN FITTINGS FOR PAN PLASTIC TUBINGS CQ...-..., CRQS...-..., QS...-...**

Technical Data / Application

**TECHNICAL DATA**

Type	CQ	Type	CRQS
Body	POM	Body	Stainless steel
W.P.	Up to 7 [bar] at 70 °C	W.P.	In acc.with PAN
tubings			
Type	QS		
Body	PBTP		
W.P.	10 [bar] at 60 °C		

**RANGE OF APPLICATION**

The above mentioned cylinders are approved for compressed air systems belonging to pipe class III under consideration of the GL Rules for Classification and Construction I. Ship Technology, Part 1, Chapter 2, Section 11 as applicable.

- The selection of the products for the corresponding service and the right installation are to be in accordance with the instructions of the manufacturer.

Approval Standard **• GL- Rules I-1-2 Machinery Installation, Section 11: 2009, VI-7-8 Test Requirements for Components and Systems of Mechanical Engineering: 2013.**

Documents **• Fittings and Tubings Test-Report-No.: FN 942021, dated: 1995-12; Test Report VM 9412196, dated: 1994, VM 9506192, dated: 1995; Q-Test; dated: 1997-10-17.**  
**• Technical Data and Specifications according to Catalogue FESTO: www.festo.com/cat (catalogue in various languages is constantly updated)**  
**• ISO 9001:2008, dated: 2013-11-13**  
**• DNVGL-Ref-No.: 15-003948**

Remarks **• None**

Valid until **2020-07-07**  
 Page **1 of 1**  
 File No. **XI.B.07**  
**Hamburg, 2015-06-02**

**DNV GL**

www.dnvgl.com

*Olaf Drews*  
 Olaf Drews

*Peter Gierhan*  
 Peter Gierhan

5441637 | DRW | - | 207777

5441637 | DRW | - | 207777

# CERTIFICATE OF COMPLIANCE

Certificate Number 20170714-MH19482  
Report Reference MH19482-20160323  
Issue Date 2017-JULY-14

Issued to: FESTO AG & CO KG  
RUITER STR 82  
73734 ESSLINGEN GERMANY


This is to certify that representative samples of COMPONENT - VALVES, ELECTRICALLY OPERATED  
See Addendum page

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 429 : Standard for Electrically Operated Valves  
C22.2, No. 139-13 : Standard for Electrically Operated Valves

Additional Information: See the UL Online Certifications Directory at [www.ul.com/database](http://www.ul.com/database) for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.

The UL Recognized Component Mark generally consists of the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory. As a supplementary means of identifying products that have been produced under UL's Component Recognition Program, UL's Recognized Component Mark: , may be used in conjunction with the required Recognized Marks. The Recognized Component Mark is required when specified in the UL Directory preceding the recognitions or under "Markings" for the individual recognitions.

Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for use as components of complete equipment submitted for investigation rather than for direct separate installation in the field. The final acceptance of the component is dependent upon its installation and use in complete equipment submitted to UL LLC.

Look for the UL Certification Mark on the product.

  
Bruce Mahrenholz, Director North American Certification Program  
UL LLC



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# CERTIFICATE OF COMPLIANCE

Certificate Number	20170714-MH19482
Report Reference	MH19482-20160323
Issue Date	2017-JULY-14

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

USR, CNR – Valve Terminal series VTUS, Cat. Nos. VTUS followed by any alphanumeric suffixes.

[Using the following parts:

USR, CNR – Solenoid Valves series, Cat. Nos. VUVS or VUWS, followed by L, may be followed by K or T, may be followed by H, followed by 20, 25 or 30, followed by B52, M32C, M32U, M52, P53C, P53E, P53U, T32C, T32H or T32U, may be followed by A, E, M or R, may be followed by Z, may be followed by D, H or S, followed by M5, M7, U10, G12, G14, G18, G34, G38, N12, N14, N18, N34, N38, N11, Q4, Q6, Q8, Q10, Q12, T12, T14, T18, T38, T316, T516 or T532, may be followed by A, B, or C, may be followed by QN, U, U1, U3 or U5, may be followed by Q4, Q6, T18 or T532, may be followed by L, may be followed by F7 or F8, may be followed by 1, 1A, 5 or 5A, may be followed by A1, B2, C1, K7, K8 or K9, may be followed by S8, may be followed by LS, may be followed by EX2, may be followed by F or W, may be followed by F, may be followed by S1, S2 or S4, may be followed by C1, C2, C3, C4, C5, CL1, CL2, CL3, CL4, CL5, G, GL or GS, may be followed by CS or SA, may be followed by any alphanumeric suffixes.

USR, CNR – Solenoid Valves series, Cat. Nos VSNC, followed by F, may be followed by K or T, may be followed by C, followed by B52, M32C, M52, P53C, P53E or P53U, may be followed by M, may be followed by D, H or S, followed by G14, N14, Q6, Q8, Q10, T14, T38 or T516, may be followed by QN, U1 or U3, followed by F8, may be followed by 1, 1A, 5 or 5A, may be followed by A1, B2, C3 or K11, may be followed by S8, may be followed by EX1, EX2, EX3 or EX4, may be followed by C1, U1 or U4, may be followed by A, M or N, may be followed by +, may be followed by G or GS, may be followed by CS or SA, may be followed by any alphanumeric suffixes.

USR, CNR – Solenoid Coil series, Cat. Nos. VACS or VACF, followed by A, B or C, followed by A1, B2 or C1, followed by 1, 1A, 5 or 5A, may be followed by EX2, EX2C or EX3, may be followed by any alphanumeric suffixes.

Manifold Series, Cat. Nos. VABM followed by any alphanumeric suffixes.

Pressure Supply Module Series, Cat. Nos. VABF followed by any alphanumeric suffixes.

Blanking Plate Series, Cat. Nos. VABB followed by any alphanumeric suffixes.]

*Brucio Mahrenholz*  
Brucio Mahrenholz, Director North American Certification Program  
UL LLC



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# CERTIFICATE OF COMPLIANCE

Certificate Number 20170714-MH19482  
 Report Reference MH19482-20160323  
 Issue Date 2017-JULY-14

### CONDITIONS OF ACCEPTABILITY:

In determining the acceptability of these valves in the end-use, the following shall be determined:

1. These valves have been evaluated for connection to an NEC Class 2 source only.
2. These valves are only intended for use in indoor-dry locations only.
3. The valve connectors are intended to be factory-wired only.
4. The suitability of the factory-wiring, including mating connectors, for secureness, and grounding of dead-metal, shall be determined in the end-product.
5. These valves are intended for use in an ultimate electrical enclosure, and the need for an electrical enclosure for the valves shall be determined in the end-product application.
6. These valves are intended for use in a suitable enclosure or mounted in a guarded and protected location where the valve body will be protected against impact.
7. The suitability of the grounding/bonding connection shall be evaluated in the end-product application.
8. The suitability of the fluid connections to these valves, with respect to securement and leakage, are to be determined in the end-product application.
9. These valves are intended to be used in conjunction with air-tubes with the following fittings designation:

Port	Air tube diameter	Size thread
1, 2, 3, 4, 5, 12, 14, 82, 84	Diameter 3 mm to 22 mm, Diameter 1/8" to 1"	M3, M5, M7, G1/8, G1/4, G3/8, G1/2, G3/4, NPT1/8, NPT1/4, NPT3/8, NPT1/2, NPT3/4, UNF5/32, UNF5/16

Bruce Mahrenholz, Director North American Certification Program  
UL LLC



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# CERTIFICATE OF COMPLIANCE

Certificate Number 20170714-MH19482  
 Report Reference MH19482-20160323  
 Issue Date 2017-JULY-14

10. Valve Terminal series VTUS shall be comprised of the following:

Coil Type	Coil Marking	Solenoid Valve	Solenoid Valve Marking
VACF-A	Related to MH19482 (series VUVS)	VUVS-L30	Related to MH19482 (series VACF)
VACF-B	Related to MH19482 (series VUVS or VSNC)	VUVS-L25 or VUVS-L30 or VSNC	Related to MH19482 (series VACF)
VACS-C	Related to MH19482 (series VUVS)	VUVS-L20	Related to MH19482 (series VACS)

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## **PL 900**

**Same certificates as PL 450 for:**

- Chain
- Bearings
- Seals
- Rubber on lid
- Pneumatics
- Duo tubing

## **PL 300**

**Same certificates as PL 450 for:**

- Chain
- Bearings
- Seals
- Rubber on lid
- Pneumatics
- Duo tubing

**The certificates for the steel components and the grease used in shafts/seals etc. (that come in contact with the bin) of PL series apply to PL 450, PL 300 and PL 900.**