

CERTIFICATE

Quality-Assurance System for Material Manufacturer
acc. to Pressure Equipment Directive 2014/68/EU, Annex I, Section 4.3
AD 2000-Merkblatt W0

Certificate no.: 05-802-21856026-C-2016-10-2019

Name and address
of manufacturer:

BORUSAN MANNESMANN BORU SAN. VE TİC. A.Ş.
Ata Mah. Sanayi Cad. No: 54 / 68 16601 Gemlik - Bursa
TURKEY

This is to certify that the manufacturer has implemented and applies a QA System related to the material. This QA System has been subjected to a specific assessment for material acc. to directive 2014/68/EU, Annex I, Section 4.3 as well as acc. to AD 2000-Merkblatt W0 with regard to the materials mentioned within the scope of approval.

Approved:

QA-System in relation to materials, acc. to directive 2014/68/EU, Annex I, Section 4.3 as well as acc. to AD 2000-Merkblatt W0

Audit report no.:

WT-21856026-01

Scope of approval:

Welded non alloy and alloy steel tubes
Details of the scope are mentioned in the annex of the certificate.

Production site:

SAWH & ERW Pipe Factories, Gemlik - Bursa TURKEY

Valid until:

03.10.2019
only valid with a certificate in force acc. to EN ISO 9001

The manufacturer disposes of the essential procedures and equipment as well as the required qualified personnel to ensure quality of manufacturing and testing the materials and products mentioned in the scope of approval.

Istanbul , 04.10.2016

Certifier of
TÜV Teknik Kontrol ve Belgelendirme A.Ş.

Mr. Onur KOŞAR

Please see Annex I – Scope of Approval

Basıncılı Kaplar Yönetmeliği EK 1 Bölüm 4.3 ve/veya AD 2000-Guideline W0'a göre malzeme üretici onay kapsamı
Scope of approval for material manufacturer acc. to Pressure Equipment Directive Annex I sec. 4.3 and/or AD 2000-Guideline W0

Sertifika Eki / Annex to Certificate
DGRL-Nr.: 05-802-21856026-2016-C-10-2019
AD 2000-W0-Nr.: 05-802-21856026-2016-C-10-2019

Tarih/ Date : 4.10.2016
Dosya / File : 21856026
Dosya / File : 21856026

Firma/firm: BORUSAN MANNESMANN BORU SANAYİ VE TİCARET A.Ş.
Yer / place: GEMLIK, BURSA TURKEY

Nu. No.	Malzeme İsimlendirmesi Material Name	Spesifikasyon Spezifikation	Kondisyon Condition	Malzeme Formu Product Form	Ölçü / Dimension		Teknik Gereksinimler Tech. Requirements	Bulgu / Remarks
					Kalınlık [mm] Thickness	Ø[mm] [kg/t]		
1	2	3	4	5	6	7	8	9
1	SAWH WELDED PIPE acc. to Pressure Equipment Directive Annex I sec. 4.3 and AD 2000-Guideline W0 Harmonized Standard(s) Under Directive For Pressure Equipment							
1.1	P195 TR2 P235 TR2 P265 TR2	EN 10217-1: 2002+A1: 2005	cold form & as welded (Route 12a)	SAWH welded steel tube	6,35 25,4	508 2540	Pressure Equipment Directive & AD-2000 W0, W4	see Remarks (1), (3), (5), (6)
2	SAWH WELDED PIPE acc. to only Pressure Equipment Directive Annex I sec. 4.3 Harmonized Standard(s) Under Directive For Pressure Equipment							
2.1	P195 TR1; P195 TR2 P235 TR1; P235 TR2 P265 TR1; P265 TR2	EN 10217-1: 2002+A1: 2005	cold form & as welded (Route 11a, 12a)	SAWH welded steel tube	6,35 25,4	508 2540	Pressure Equipment Directive	see Remarks (1), (3), (5), (7)
3	SAWH WELDED PIPE acc. to only Pressure Equipment Directive Annex I sec. 4.3 Non-Harmonized Standard(s) Under Directive For Pressure Equipment (See Remarks 8 & 9)							
3.1	L245MB; L245NB L290MB; L290NB L360MB; L360NB L415MB; L415NB L450MB L485MB L555MB	EN 10208-2: 2009 * * superseded by EN ISO 3183: 2012	cold forming & as welded	SAWH steel pipe	6,35 25,4	508 2540	Pressure Equipment Directive	see Remarks (2), (4), (5), (8), (9)
3.2	L210 or A L245 or B; L245M or BM; L245NE or BNE; L245ME or BME L290 or X42; L290M or X42M; L290NE or X42NE; L290ME or X42ME L320 or X46; L320M or X46M L360 or X52; L360M or X52M; L360NE or X52NE; L360ME or X52ME L390 or X56; L390M or X56M L415 or X60; L415M or X60M; L415NE or X60NE; L415ME or X60ME L450 or X65; L450M or X65M; L450ME or X65ME L485 or X70; L485M or X70M; L485ME or X70ME L555M or X80M; L555ME or X80ME L625M or X90M L690M or X100M L830M or X120M	EN ISO 3183: 2012	cold form & as welded	SAWH steel pipe	6,35 25,4	508 2540	Pressure Equipment Directive	see Remarks (2), (4), (5), (8), (9)

Açıklama / Explanation: +AT / AT = Isıl işlem/Solution heat treated; N = Normalize/ normalized;
NT = Normalize ve Tavlanmış / normalized and annealed; +QT / V = Su verilmiş ve temperlenmiş/ quenched and tempered; M = Sıcak Şekillendirme / thermomechanical treated
U = Tavlanmamış / without annealing; S = Gerilim Giderme / stress relieved; A = Soft annealed; CR = Haddelenme / controlled hot rolled
NW = Kaynak bölgesi normalize / normalising weld zone; NP = Tüm boru normalize / normalising entire pipe
hot stretch = normalize edilmiş duruma getirmek için kontrollü bir sıcaklıkta sıcak germe ile kesitli daraltılmış / hot stretch reduced at a controlled temperature to a given normalised condition

Basıncılı Ekipmanlar Yönetmeliğine göre uyumlaştırılmamış matzemeler için bilgi / Hints for non harmonized materials use acc. to Pressure Equipment Directive:
Basıncılı Kap üreticisinin özel operasyon istekleri bildirilmelidir. Eğer gerekirse ilgili yetkilendirilmiş kuruluşun değerlendirme onayı alınmalıdır. / The specific operation conditions have to be given by the pressure equipment manufacturer. If necessary, the involved notified body has give his agreement.

TÜV Teknik Kontrol ve Belgelendirme A.Ş.



Basınçlı Kaplar Yönetmeliği EK 1 Bölüm 4.3 ve/veya AD 2000-Guideline W0'a göre malzeme üretici onay kapsamı
Scope of approval for material manufacturer acc. to Pressure Equipment Directive Annex I sec. 4.3 and/or AD 2000-Guideline W0

Sertifika Eki / Annex to Certificate
DGRL-Nr.: 05-802-21856026-2016-C-10-2019
AD 2000-W0-Nr.: 05-802-21856026-2016-C-10-2019

Tarih / Date : 4.10.2016
Dosya / File : 21856026
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Firma/firm: BORUSAN MANNESMANN BORU SANAYI VE TİCARET A.Ş.
Yer / place: GEMLİK, BURSA TURKEY

Nu. No.	Malzeme İsimlendirmesi Material Name	Spesifikasyon Spezifikation	Kondisyon Condition	Malzeme Formu Product Form	Ölçü / Dimension			Teknik Gereksinimler Tech. Requirements	Bulgu / Remarks
					Kalınlık [mm] Thickness	Ø[mm]	[kg/t]		
1	2	3	4	5	6	7	8	9	
4	HFW WELDED PIPE acc. to Pressure Equipment Directive Annex I sec. 4.3 and AD 2000-Guideline W0 Harmonized Standard(s) Under Directive For Pressure Equipment								
4.1	P195 TR2 P235 TR2 P265 TR2	EN 10217-1:2002+A1:2005	cold form & NW or NP (Route 1c, 2b, 2c) cold form & hot stretch (Route 3)	HFW welded steel tube	2,0	12,7	21,3 339,7 21,3 88,9	Pressure Equipment Directive & AD-2000 W0, W4	see Remarks (1), (3), (5)
4.2	P195 GH TC1 P235 GH TC1 P265 GH TC1 16Mo3	EN 10217-2:2002+A1:2005	cold form & NW or NP (Route 1, 2a) cold form & hot stretch (Route 2c)	HFW welded steel tube	2,0	12,7	21,3 339,7 21,3 88,9	Pressure Equipment Directive & AD-2000 W0, W4	see Remarks (1), (3), (5), (10)
4.3	P355N P355NH	EN 10217-3:2002+A1:2005 & VdTÜV-Werkstoffblätter 352/1, 354/1 and 357/1	cold form & NW or NP (Route 1a, 1b, 2a) cold form & hot stretch (Route 2c)	HFW welded steel tube	2,0	12,7	21,3 339,7 21,3 88,9	Pressure Equipment Directive & AD-2000 W0, W4	see Remarks (1), (3), (5), (11)
5	HFW WELDED PIPE acc. to only Pressure Equipment Directive Annex I sec. 4.3 Harmonized Standard(s) Under Directive For Pressure Equipment								
5.1	P195 TR1; P195 TR2 P235 TR1; P235 TR2 P265 TR1; P265 TR2	EN 10217-1:2002+A1:2005	cold form & as welded (Route 1a, 2a) cold form & NW or NP (Route 1b, 1c, 2a, 2b) cold form & hot stretch (Route 3)	HFW welded steel tube	2,0	12,7	21,3 339,7 21,3 88,9	Pressure Equipment Directive	see Remarks (1), (3), (5), (7)
5.2	P195 GH TC1 P235 GH TC1 P265 GH TC1 16Mo3	EN 10217-2:2002+A1:2005	cold form & NW or NP (Route 1, 2a) cold form & hot stretch (Route 2c)	HFW welded steel tube	2,0	12,7	21,3 339,7 21,3 88,9	Pressure Equipment Directive	see Remarks (1), (3), (5)
5.3	P355N P355NH	EN 10217-3:2002+A1:2005	cold form & NW or NP (Route 1a, 1b, 2a) cold form & hot stretch (Route 2c)	HFW welded steel tube	2,0	12,7	21,3 339,7 21,3 88,9	Pressure Equipment Directive	see Remarks (1), (3), (5)

Açıklama / Explanation: +AT / AT = Isıl İşlem/Solution heat treated; N = Normalizasyon/normalized;
NT = Normalizasyon ve Tavlanmış / normalized and annealed; +QT / V = Su verilmiş ve temperlenmiş/ quenched and tempered; M = Sıcak Şekillendirme / thermomechanical treated
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NW = Kaynak bölgesi normalize / normalising weld zone; NP = Tüm boru normalize / normalising entire pipe
hot stretch = normalize edilmiş duruma getirmek için kontrollü bir sıcaklıkta sıcak germe ile kesitli daraltılmış / hot stretch reduced at a controlled temperature to a given normalised condition

Basınçlı Ekipmanlar Yönetmeliği'ne göre uyumlaştırılmamış malzemeler için bilgi / Hints for non harmonized materials use acc. to Pressure Equipment Directive:
Basınçlı Kap üreticisinin özel operasyon istekleri bildirilmelidir. Eğer gerekirse ilgili yetkilendirilmiş kuruluşun değerlendirme onayı alınmalıdır. / The specific operation conditions have to be given by the pressure equipment manufacturer. If necessary, the involved notified body has give his agreement.



Başınçlı Kaplar Yönetmeliği EK 1 Bölüm 4.3 ve/veya AD 2000-Guideline W0'a göre malzeme üretici onay kapsamı
Scope of approval for material manufacturer acc. to Pressure Equipment Directive Annex I sec. 4.3 and/or AD 2000-Guideline W0

Sertifika Eki / Annex to Certificate
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Firma/firm: BORUSAN MANNESMANN BORU SANAYİ VE TİCARET A.Ş.
Yer / place: GEMLİK, BURSA TURKEY

Nu. No.	Malzeme İsimlendirmesi Material Name	Spesifikasyon Specification	Kondisyon Condition	Malzeme Formu Product Form	Ölçü / Dimension		Teknik Gereksinimler Tech. Requirements		Bulgu / Remarks
					Kalınlık [mm] Thickness	Ø[mm]	[kg/t]		
1	2	3	4	5	6	7	8	9	
6	HFW WELDED PIPE acc. to only Pressure Equipment Directive Annex I sec. 4.3 Non-Harmonized Standard(s) Under Directive For Pressure Equipment (See Remarks 8 & 9)								
6.1	L210 GA L235 GA	EN 10208-1: 2009 * * superseded by EN ISO 3183: 2012	cold forming & normalized (weld area) cold forming & normalized (entire pipe) cold forming & heat treated (weld area) cold forming & hot stretch	EW steel pipe	2,0	12,7	114,3 339,7 21,3 219,3 114,3 339,7 21,3 88,9	Pressure Equipment Directive	see Remarks (2), (4), (5), (8), (9)
6.2	L245MB; L245NB L290MB; L290NB L360MB; L360NB L415MB; L415NB L450MB L485MB L555MB	EN 10208-2: 2009 * * superseded by EN ISO 3183: 2012	cold forming & normalized (weld area) cold forming & normalized (entire pipe) cold forming & heat treated (weld area) cold forming & hot stretch	HFW steel pipe	2,0	12,7	114,3 339,7 21,3 219,3 114,3 339,7 21,3 88,9	Pressure Equipment Directive	see Remarks (2), (4), (5), (8), (9)
6.3	L210 or A L245 or B; L245N or BN; L245M or BM; L245NE or BNE; L245ME or BME L290 or X42; L290N or X42N; L290M or X42M; L290NE or X42NE; L290ME or X42ME L320 or X46; L320N or X46N; L320M or X46M L360 or X52; L360N or X52N; L360M or X52M; L360NE or X52NE; L360ME or X52ME L390 or X56; L390N or X56N; L390M or X56M L415 or X60; L415N or X60N; L415M or X60M; L415NE or X60NE; L415ME or X60ME L450 or X65; L450M or X65M; L450ME or X65ME L485 or X70; L485M or X70M; L485ME or X70ME	EN ISO 3183: 2012	cold forming & heat treating of weld area only cold forming & heat treating of weld area only and stress relieving of entire pipe cold forming & normalizing cold forming & hot stretch	HFW steel pipe	2,0	12,7	114,3 339,7 114,3 219,3 21,3 219,3 21,3 88,9	Pressure Equipment Directive	see Remarks (2), (4), (5), (8), (9)

Açıklama / Explanation: +AT / AT = Isıl İşlem/Solution heat treated; N = Normalizasyon / normalized;

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Başınçlı Ekipmanlar Yönetmeliğine göre uyumlaştırılmamış malzemeler için bilgi / Hints for non harmonized materials use acc. to Pressure Equipment Directive:

Başınçlı Kap üreticisinin özel operasyon istekleri bildirilmelidir. Eğer gerekirse ilgili yetkilendirilmiş kuruluşun değerlendirme onayı alınmalıdır. / The specific operation conditions have to be given by the pressure equipment manufacturer. If necessary, the involved notified body has give his agreement.



Başınçlı Kaplar Yönetmeliği EK 1 Bölüm 4.3 ve/veya AD 2000-Guideline W0'a göre malzeme üretici onay kapsamı
Scope of approval for material manufacturer acc. to Pressure Equipment Directive Annex I sec. 4.3 and/or AD 2000-Guideline W0

Firma/firm: BORUSAN MANNESMANN BORU SANAYİ VE TİCARET A.Ş.
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Sertifika Eki / Annex to Certificate
DGRL-Nr.: 05-802-21856026-2016-C-10-2019
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Tarih/ Date : 4.10.2016
Dosya / File: 21856026
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Nu. No.	Malzeme İsimlendirmesi Material Name	Spesifikasyon Spekifikation	Kondisyon Condition	Malzeme Formu Product Form	Ölçü / Dimension Kalınlık [mm] Thickness	Ø[mm] [kg/t]	Teknik Gereksinimler Tech. Requirements	Bulgu / Remarks
1	2	3	4	5	6	7	8	9
REMARKS:	<p>(1) For pressure equipment in categories II, III, and IV of Pressure Equipment Directive, the welding operating procedures and the welding personnel shall be approved by a notified body (NoBo) or by a recognised third-party organisation (RTPO). Tubes not conforming to this requirement shall be marked "C1". (refer to EN 10217-1 paragraph 7.3.3)</p> <p>(2) For pressure equipment in categories II, III, and IV of Pressure Equipment Directive, the welding operating procedures and the welding personnel shall be approved by a notified body (NoBo) or by a recognised third-party organisation (RTPO). Tubes not conforming to this requirement shall be properly marked and identified.</p> <p>(3) For pressure equipment in categories III and IV of Pressure Equipment Directive, the non destructive personnel shall be approved by a recognised third-party organisation (RTPO). Tubes not conforming to this requirement shall be marked "C2", unless a requirement to mark "C1" applies. (refer to EN 10217-1 paragraph 7.3.1)</p> <p>(4) For pressure equipment in categories III and IV of Pressure Equipment Directive, the non destructive personnel shall be approved by a recognised third-party organisation (RTPO). Tubes not conforming to this requirement shall be properly marked and identified.</p> <p>(5) When the use of the welded tube is limited to pressure equipment in category I of Pressure Equipment Directive, a statement in the test report confirming that personnel and welding procedures are qualified according to suitable internal operating procedures is sufficient. When the use of the welded tube is pressure equipment in category II, III and IV of Pressure Equipment Directive, the inspection document shall take the form of a certificate of specific product control, where shall be found the references to the notified body (NoBo) or to the recognised third-party organisation (RTPO) approval of welding procedures and personnel (for categories II, III and IV) and to the recognised third party organization (RTPO) approval of non destructive personnel (for categories III and IV). (refer to Pressure Equipment Directive Guideline G-25)</p> <p>(6) Requirements of AD-2000 HP 7/2 shall be check to verify that heat treatment is not required for the specific deformation percentage.</p> <p>(7) Tubes made to material grades P195TR1, P235TR1 & P265TR1 are unlikely to support the essential requirements of Pressure Equipment Directive unless other criteria are taken into account, see Annex I section 7.5 of the Directive. (refer to EN 10217-1 Table 4 note e).</p> <p>(8) Particular material appraisal (PMA) acc. Pressure Equipment Directive is required. The PMA shall describe the material properties in a manner that is concise, complete and correct for the foreseen application. It shall comprise qualitative and quantitative data providing evidence that the relevant Essential Safety Requirements (ESR) of PED Annex I are met. The responsibility for drawing up the PMA lays with the pressure equipment manufacturer. (refer to Pressure Equipment Directive Guideline I-13)</p> <p>(9) The specific operation conditions have to be given by the pressure equipment manufacturer. If necessary, the involved notified body has to give his agreement.</p> <p>(10) An impact test shall be carried out from nominal wall thickness $\geq 10\text{mm}$ (refer to AD-2000 W4 paragraph 3.6)</p> <p>(11) Tubes shall be as specified EN 10217-3 in conjunction with VdTUV-Werkstoffblätter 354/1. For tubes of quantities with elevated temperature properties and high-impact strength at low temperatures, if the proof stresses at elevated temperature are to apply, one hot tensile test per cast is required at working temperature (rounded up to the nearest 10 K), or at 400 °C (refer to AD-2000 W4 paragraph 2.2.6 & paragraph 3.7).</p>							

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