



345 Carlingview Drive
Toronto, Ontario
Canada M9W 6N9
Tel.: 416.734.3300
Fax.:416.231.6183
Toll Free: 1.877.682.8772

www.tssa.org

CERTIFICATE OF AUTHORIZATION

This is to certify the named company as having had the adequacy of their quality program verified for the scope shown below in accordance with the *Ontario Technical Standards and Safety Act, 2000* and the Boilers and Pressure Vessels Regulation.

Company Name: NORTHFLEX MANUFACTURING INC
428 MILLEN RD
UNIT 5
STONEY CREEK ON L8E 3N9
CANADA

Scope: Fabrication of Welded and Non-Welded Category D type Fittings only at the Above Location Only. In accordance with CSA Standard B51 Boiler, Pressure Vessel and Pressure Piping Code.

Authorized: 25-AUG-2017

Expires: 24-AUG-2022

Certificate Number: QA 227



Director
Boilers and Pressure Vessels Safety Program

TECHNICAL STANDARDS AND SAFETY AUTHORITY



Boilers and Pressure Vessels Safety
 3300 Bloor Street West
 14th Floor, Centre Tower
 Toronto, Ontario
 CANADA M8X 2X4

Show facsimile of manufacturer's logo or trademark, as it will appear on the fitting, in the space below



STATUTORY DECLARATION
 Registration of Fittings

I, VINCE PINELLI - QUALITY CONTROL / PLANT MANAGER
 (Name & Position, e.g. President, Plant Manager, Chief Engineer)
 of NORTHFLEX MANUFACTURING INC.
 (Name of Manufacturer)
 Located at 428 MILLEN ROAD UNIT #5 (Plant Address) (905) 664-1063 (Telephone Number) (905) 664-1644 (Fax Number)

- do solemnly declare that the fittings listed hereunder, which are subject to the Technical Standards and Safety Act, 2000, and Regulations for Boilers and Pressure Vessels comply with all of the requirements of CSA - B51
 (Title of recognized North American Standard)
 which specifies the dimensions, materials of construction, pressure/temperature ratings, identification marking the fittings and service;
- or are not covered by the provisions of a recognized North American standard and are therefore manufactured to comply with _____ as supported by the attached data which identifies the dimensions, material of construction, pressure/temperature ratings and the basis for such ratings, the marking of the fitting for identification and service.

I further declare that the manufacture of these fittings is controlled by a quality system meeting the requirements of A.S.T.M which has been verified by the following authority, T.S.S.A.
 The items covered by this declaration, for which I seek registration, are category "D" type fittings. In support of this application, the following information and/or test data are attached as follows:
PRODUCT SPECIFICATIONS, DRAWINGS / PROOF TESTS
 (drawings, calculations, test reports, etc.)

Declared before me at Stoney Creek in the province of Ontario
 the 10th day of July AD 20 12.

Commissioner for Oaths:
Mieszko Chuchla
 (Printed name)

(Signature)

[Signature]
 (Signature of Declarer)

FOR OFFICE USE ONLY

To the best of my knowledge and belief, the application meets the requirements of the Technical Standards and Safety Act, 2000, and Regulations for Boilers and Pressure Vessels and is accepted for registration in Category D.

CRN Number Issued: 002983.5R2

Registered by: A. Dettl

Date Registered: Sept 12/12

This registration expires on: Sept 12/22

Boilers and Pressure Vessels Safety Program

REGISTERED

CRN: 002983.5R2

Signed: A. Dettl

Sept 12/12

1/4" 321 BR. PARRAP HOSE (304 SS BRAID) 321 SS STRIP HEAT/TREAC : 837125
 304 SS WIRE HEAT : S03791 + V8676



192-12, Jeonpo 2-dong Busanjin-gu
 Busan Korea
 Head office : Tel(82-51-804-6500)
 Fax(82-51-803-4400)

Seoul office : Tel(82-2-2082-6431)
 Fax(82-2-2082-6435)
 Kimhae factory : Tel(82-55-335-8989)
 Fax(82-55-335-8980)

MILL CERTIFICATE

Sheet No. : EW-1206-043

Customer: messrs. BOA Flexible Solutions S.A.S

Manufacturer : SHINE CO., LTD.

PO No.& DATE : 4500016520/13.04.2012 00020

MATERIAL NO. : 0000024886

Commodity : Stainless Steel Colored Wire

TYPE : AISI 304(1.4301)

Nominal Dia. of Wire : 0.40MM (Colored Wire Dia. 0.43MM)

Lot No. : 11205012

Specification : Buyer SPEC.

Quality Grade : Soft

Order Quantity : 348.55 KGS

Surface Condition : Dark-Blue

Length : *

TEST RESULTS(Before Coated)

Item Spec. No.	Dia. (mm)	Ovality (mm)	T/S (Mpa)	E/L at 0.2% (Mpa)	E/L at 1% (Mpa)	E/L (%)
	0.40 ± 0.015	Max. 0.015	700 - 850	Min. 250	Min. 290	Min.35
1	0.396	0.004	730	289	328	44.2
2						
3						
4						
5						

CHEMICAL ANALYSIS OF WIRE ROD(%)

Component & SPEC.	C	Si	Mn	P	S	Ni	Cr	Mo	Cu	N
Heat No.	Max. 0.07	Max. 1.00	Max. 2.00	Max. 0.045	Max. 0.030	8.0 - 10.5	17.5 - 19.5			Max. 0.11
S03791	0.033	0.465	1.645	0.0338	0.0032	8.111	18.222	0.185	0.385	0.0643

REMARKS : 1. Wear-Resistance : Not cut wire

2. Heat-Resistance : MAX. 130°C

3. Coating of the material : Poly Urethane

4. Coating thickness : 15µm

It is hereby certified that the above results are true and correct in every detail.

JUN/21/2012

Date

S. H. Lee

Manager of Quality Assurance Dept.

SF-3805B

SHINE CO., LTD.

A4(210×297mm)

4500018554 00020



VENUS WIRE INDUSTRIES PVT. LIMITED

REGD. OFFICE : 19 RAGHU VANSHI MILL COMPOUND, S. B. MARG, LOWER PAREL, MUMBAI 400 015, (INDIA)
 TEL : +91(22)30451000/24978840 FAX : +91(22)30451049/24978846 E-MAIL : nqr@venuswires.com WEBSITE : www.venuswires.com

ISO: 9001:2008
CERTIFIED

INSPECTION /MILL/QUALITY /EN 10204/3.1 CERTIFICATE

No. WD/VW/2013-14/3063

PRODUCT INFORMATION	CUSTOMER : BOA, FRANCE	GRADE : 1.4301
	INVOICE NO. : VW/225/EXP/2013-2014	HEAT NO. : V8676
	PRODUCT FORM : STAINLESS STEEL WIRE	
	DIMENSION : 0.40mm \leftarrow Tol - \pm 0.015 mm	QUANTITY : 985.86 KGS
	IDENTIFICATION : BOX NO: TT 194, SPOOL NO. LG 97-144	
CONDITION : BRIGHT ANNEALED.		

ELEMENTS	C%	SI%	Mn %	P%	S%	Cr %	Ni %	Cu%	Mo %	N%	Nb%	Ti%	----
SPECIFIED	0.070	1.000	2.000	0.045	0.030	17.50	8.000	----	----	----	----	----	----
RESULTS	0.031	0.30	1.46	0.033	0.008	18.49	8.08	----	----	0.0560	----	----	----

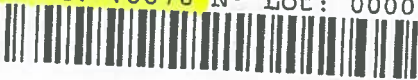
MECHANICAL PROPERTIES							
RESULTS	DIAMETER (MM)	Rm (N/mm ²)	Rp (0.2%) (N/mm ²)	R.A %	ELONGATION % (G.L. 80 MM)	HARDNESS	Rp (1%) (N/mm ²)
SPECIFIED	MIN MAX	0.385 0.415	700 850	230 ---	NA NA	NA NA	290 ---
SPOOL NO : LG 111		0.398	758	371	44.00		420

HEAT TREATMENT : STRAND ANNEALED AT 1050°C

- REMARKS :
- * MATERIAL IS FREE FROM MERCURY CONTAMINATION
 - * MATERIAL CONFORMS TO CUSTOMER SPECIFICATION NO. Ref CCMA1 10002
 - * DATED 05/12/2011 Ver.08
 - * MATERIAL CONFORMS TO EN 10088-3:2005, NF EN 10218-2/1996, NF EN 60264-2-1/1995
 - * CUSTOMER ORDER NO: 4500018554, DATED: 22.05.2013
 - * OUR WORK ORDER NO. : W119A/2013 DATED: 04.06.2013
 - * PART NO: 10153
 - * LOT NO.: V711-199
 - * RESISTANCE TO INTERGRANULAR CORROSION FOUND SATISFACTORY AS PER EN ISO 3651-2:1998 METHOD A.

FIL IN 304 0.40 R 70/ 80
 Fournis. 2285 Qté: 985,860
 Document 5000041713 / 0001

Article 0000010153
 Trac: V8676 N° Lot: 0000006995



WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MANUFACTURED AND TESTED WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE CUSTOMERS REQUIREMENTS NEEDS AND EXPECTATIONS MECHANICAL TEST RESULTS ARE TAKEN RANDOMLY FROM THE LOT

DATE: 20/06/2013



SHAILENDRA SHARMA
(WORK INSPECTOR)

DOC.No. F/QAD/06.R4

PLANT : ATKARGAON, TAKALADOSH ROAD, KHALAPUR, KHOPOLI - 410205.
 PHONES : +91 (2192)304800/263404/262612 FAX : +91 (2192) 304850/268873

BOA FLEXIBLE SOLUTIONS SAS
14 RUE DE LA GOUTTE D'OR
02130 FERRE EN TARDENOIS
FRANCE



In der Fleute 17
D-42897 Remscheid
Telefon (02191) 9515-300
Telefax (02191) 9515-301
Postfach 110103, 42861 Remscheid



ABNAHMEPRÜFZEUGNIS - WORKS CERTIFICATE - CERTIFICAT MATIERE
nach - according to - suivant:

DIN EN 10204 / 3.1

Certifikat No.: 104.643

Ihre Bestellung Nr.: Your order n°: 4500019168 <i>axx Ag</i> Votre commande n°:		Unsere Auftrags-Nr.: Work order n°: W06109 N° de séquence:														
Prüfbedingungen: Specifications: Spécifications: EN 10088-2		Stahlsorte: Quality: AISI 321 Nuance:														
Ref.-Nr.: 10094		Oberfläche: Finish: Surface:	Zustand: Temper: Etat:													
Pos.: Item: 1 Poste:		Ra: Min Rmax: Min Rz: Min	Lösungsgeglüht Solution treated Hypertempé													
Abmessung: Size: Dimensions:		Menge: Quantity: Quantité:	Chargen-Nr.: Heat n°: N° coulée:													
Dicke Thickness Epaisseur		Coil-Nr.: Coll n°: N° de couronne:														
Breite Width Largeur		1.248,00 kg 837125 12-9186														
0,2500mm		102,70 mm														
ANALYSE - ANALYSIS - ANALYSE CHIMIQUE																
	C	Mn	P	S	Si	Cr	Ni	Mo	Ti	N	Al	V	W	Ta	Cu	
Min						17,00	9,00									
Max	0,080	2,00	0,045	0,0150	1,00	19,00	12,00		0,700							
Ist	0,020	1,79	0,025	0,0001	0,540	17,20	9,20		0,190							
	Co	Cb	Ti/Cb	Ta/Cb	Se	Be	Fe	O2	H2	B	Cd	Pb	Sn	Zn		
Min																
Max																
Ist																
Erschmelzungsart, Steel Process, Mode AOD																
Mechanische Werte - Mechanical Values - Caractéristiques Mécaniques																
	Rm N/mm ²				Rp 0,2% N/mm ²				Rp 1,0% N/mm ²				A80 %			
	L Min:	T Min: 540,00			L Min:	T Min: 220,00			L Min:	T Min: 250,00			Min:	T		
	L Max:	T Max: 680,00			L Max:	T Max: 340,00			L Max:	T Max:			Max:	48,00		
1	L															
2	L															
1	T	624,00 ✓				258,00 ✓				276,00 ✓				63,00 ✓		
2	T															
Härte, Hardness, Dureté: VHN - 156 ✓																
Min: 120 Max: 180																
Korngröße, Grain size, Grosseur de grain ASTM E 112: 10,00 ✓																
Min: 8,00																
IK- Beständigkeit / ICC Resistance / Corrosion intergranulaire: EN ISO 3651-2 -- pass -- ✓																
Verwechslungsprüfung + Maßkontrolle / Material confusion + size check/ Contrôle anti-mélange effectif + dimensions: o.B.																
Werks-Sachverständiger, Worksinspector, Contrôle Qualité																
Unterschrift <i>Böller</i>																
Allegheny Ludlum Stempel 																
1: Anfang, Front, Début		L: Längs, Longitudinal, Long				Datum:										
2: Ende, End, Fin		T: Quer, Transverse, Travers				Date:		28.06.2013								
Unser Material stimmt mit den Beschränkungen der VDA 232-101 überein, Our material is in conformance with the substance limitations of VDA 232-101, La matière correspond aux restrictions de VDA 232-101																

Niederlassung der Allegheny Ludlum GmbH

Sitz der Gesellschaft: Heusenstamm Amtsgericht Offenbach HRB 10695
Geschäftsführer: Jürgen Gross

1/4" 304 SS NF FRL HEAT #: 1401A09 NF PO: 292762 PK150: 104304 July 10, 2017

PRECISION HOSE, INC.
2200 CENTRE PARK CT.
P.O. BOX. 870667
STONE MOUNTAIN, GA 30087

770-413-5680 (TEL)
770-413-5643 (FAX)

MATERIAL TEST CERTIFICATE

DATE: 05/05/2015
PURCHASE ORDER NUMBER: 32568
MATERIAL: AISI 304
HEAT NUMBER: 1401a09
LOT NUMBER: 12515-003
PART NUMBERS: 190-304; 200-304; 202-304; 216-304; 224-304; 232-304;
254-304; 284-304; 288-304; 306-304; 308-304; 310-304; 312-304;

CHEMICAL COMPOSITION (%)

C	Si	Mn	S	P	Cr	Ni	Ti	Mo	N
.046	.38	1.07	.001	.037	17.32	8.02	-	-	-

MECHANICAL PROPERTIES

TENSILE	YIELD	ELONGATION	HARDNESS
81,656.23 PSI	32,778.52 PSI	47 %	-

WHILE WE MAKE NO INDEPENDENT TESTS OF MERCURY OR RADIATION, THERE IS NOTHING IN THE MANUFACTURING PROCESS THAT COULD BE EXPECTED TO INTRODUCE CONTAMINATION OF EITHER TYPE.

WE CERTIFY THAT THE ABOVE MATERIAL COMPLIES WITH THE REQUIREMENT OF THE ORDER.



STEFANIA M. GHERCA
QUALITY CONTROL REPRESENTATIVE

1/4" CS S40 MNPT TOE NF PO: 202439 PUI 50 87442 05/21, 2015

PRECISION HOSE, INC.
2200 CENTRE PARK CT.
P.O. BOX. 870667
STONE MOUNTAIN, GA 30087

770-413-5680 (TEL)
770-413-5643 (FAX)

MATERIAL TEST CERTIFICATE

DATE: 7/15/2011
PURCHASE ORDER NUMBER: 1563-N
MATERIAL: CARBON STEEL
HEAT NUMBER: N/A
LOT NUMBER: 19611-001
PART NUMBERS: TOE-04-CS; TOE-08-CS; TOE-12-CS; TOE -16-CS;
TOE -20-CS; TOE -24-CS; TOE -32-CS; TOE-48-CS;
TOE-64-CS

CHEMICAL COMPOSITION (%)

C	Si	Mn	S	P	Cr	Ni	Ti	Mo	N
.17	.15	0.037	0.016	0.005	-	-	-	-	-

MECHANICAL PROPERTIES

TENSILE	YIELD	ELONGATION	HARDNESS
58,305.17 PSI	43,656.35 PSI	26 %	-

WHILE WE MAKE NO INDEPENDENT TESTS OF MERCURY OR RADIATION, THERE IS NOTHING IN THE MANUFACTURING PROCESS THAT COULD BE EXPECTED TO INTRODUCE CONTAMINATION OF EITHER TYPE.

WE CERTIFY THAT THE ABOVE MATERIAL COMPLIES WITH THE REQUIREMENT OF THE ORDER.


WILLIAM A. ARNOLD
OPERATIONS MANAGER



Actual Certification of Tests

Weid Wire Company Inc.
 103 Queens Drive
 P.O. Box 60340
 King of Prussia, PA 19406
 610-265-3555
 Fax 610-265-7806
 www.weldwire.net

Customer	NORTHFLEX MANUFACTURIN G INC.	Attn:	Order#	1029590	PO #	0000292733
Specification & Classification	AWS A5.9/ASME SFA 5.9	Type	Diameter	3/32	Quantity	180
		Heat/Lot			Date of Issue	5/15/2017

CHEMICAL COMPOSITION (%)

Elements	C	Cr	Cu	Mn	Mo	Ni	P	S	Si	N
Filler Metal	0.0140	23.2300	0.0800	1.7300	0.0600	12.4000	0.0250	0.0080	0.3600	0.1400

Notes	Additional Information
	COO:INDIA

Visual and dimensional examination: Satisfactory
 Material, when shipped is free from contamination by mercury, radium, alpha source, and low melting point elements.

The test reports represent the actual attributes of the material furnished and the test results are in full compliance with all applicable specifications and order requirements.

Joseph M. Bluba
 Quality Certification Representative

Date _____