

April 16, 2012

Tanya Francis
TECHNICAL STANDARDS & SAFETY AUTHORITY
3300 BLOOR STREET WEST
14 FLOOR CENTRE TOWER
TORONTO, ON M8X 2X4

Dear Tanya Francis,

The design submission, tracking number 2012-01938, originally received on March 16, 2012 was surveyed and accepted for registration as follows:

CRN : 0B15153.52 **Accepted on:** April 16, 2012
Reg Type : New Design **Expiry Date:** March 02, 2022
Drawing No. : REPORT: R-10059; API CATALOGUE Rev 0
Fitting Desc: COMPACT FLANGE

Design registered in the name of : LTS LLC

Description	MAWP	Design Temperature
see tables	kPa	°C

The registration is conditional on your compliance with the following notes:

This registration covers only ANSI/ASME ASME B16.5 and ASME B16.47 standard flanges #600, 900, 1500 and 2500.

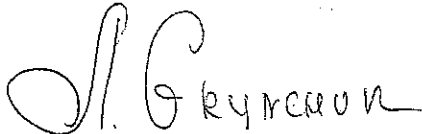
Any custom made flanges or the specified unlisted materials shown in the catalogue are not part of this registration.

This registration is valid until the indicated expiry date only if the Manufacturer maintains a valid quality management system approved by an acceptable third-party agency until that date. Should the approval of the quality management system lapse before the expiry date indicated above, this registration shall become void.

An invoice covering survey and registration fees will be forwarded from our Revenue Accounts.

Enclosed are stamped prints for your reference.

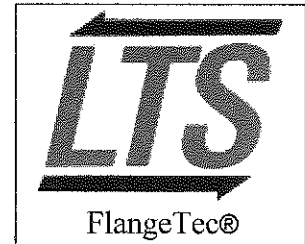
Sincerely,



GRYNCHUK, MILLA
Design Survey Engineer



STATUTORY DECLARATION
Registration of Fittings



I, Gregory Brown,

Engineer

(company title, e.g. vice president, plant manager, chief engineer) (must be in a position of authority)

of LTS, LLC

(name of manufacturer)

located at 1116 Engineers Road, Belle Chasse, LA, 70037, USA

(plant address)

do solemnly declare that the fittings listed hereunder, which are subject to the Safety Codes Act (check one)

comply with the requirements of _____ which specifies the dimensions, (title of recognized North American Standard)

materials of construction, pressure/temperature ratings and identification marking of the fittings, or

are not covered by the provisions of a recognized North American standard and are therefore manufactured to comply with ASME B31.3 as supported by the attached data which identifies the dimensions, materials of construction, pressure/temperature ratings and the basis for such ratings, and the marking of the fittings for identification.

I further declare that the manufacture of these fittings is controlled by a quality control program which has been verified by the following authority, DNV as being suitable for the manufacture of these fittings to the stated standard. The fittings covered by this declaration, for which I seek registration, are FlangeTec @ Compact Flange

In support of this application, the following information, calculations and/or test data are attached:

Design Report - R-10059 REV 0 including ASME-API Series Compact Flange Catalogue, DNV ISO 9001:2008 Certificate

DECLARED before me at 2:40pm in the _____ State of Colorado

this 12th day of January, 2012
(Month) (Year)

(print) Melissa J Miller

(sign) Melissa J Miller
(A Commissioner for Oaths)

MELISSA J. MILLER
NOTARY PUBLIC
STATE OF COLORADO

Gregory Brown
(Signature of Applicant)

For Office Use Only

My Commission Expires 03/07/2013

To the best of my knowledge and belief, the application meets the requirements of the Safety Codes Act and CSA Standard B51, Clause 4.2, and is accepted for registration in Category B

Registration Number: 0B15153.52

MELISSA J. MILLER

Date Registered: APR 16 2012

(For the Administrator/Chief Inspector of Alberta)

Expiry Date: 2022-03-02



ASME- API SERIES COMPACT FLANGE



ISO 9001:2008
ISO 29001-2007
API 6A-1059
API 6A QMS
API 6A Q1



FlangeTec® ASME Series - Design based on **ASME VIII Div. 1 Code Rules** and suitable for Pressure Vessel, Pig Launchers, Heat Exchangers, Separators, Sand Scrubbers, Closures and a multitude of Process Piping applications.

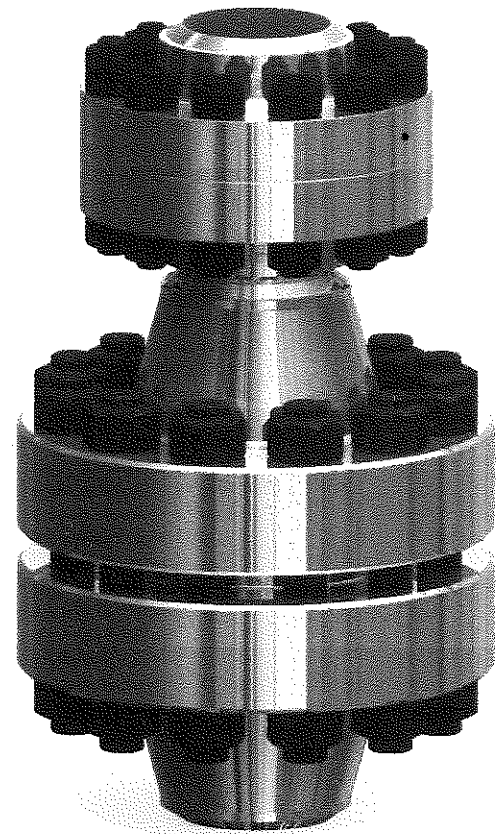
Advantages - FlangeTec® Compact Flanges offer over **70% Weight Savings** as well as significant Space savings over standard ASME B16.5 flanges. FlangeTec® is offered in sizes thru 200" (5,080mm) which fall outside of ASME B16.47 and MSS-SP44 Standards, and are manufactured in a multitude of materials.

Size Range - ½" (12mm) thru 200" (5,080mm). Larger available on request.

Pressure Classes - ASME 150lbs thru 4,500lbs, API 5M thru 20M, and -423°F (-269°C) / 1600°F (871°C).

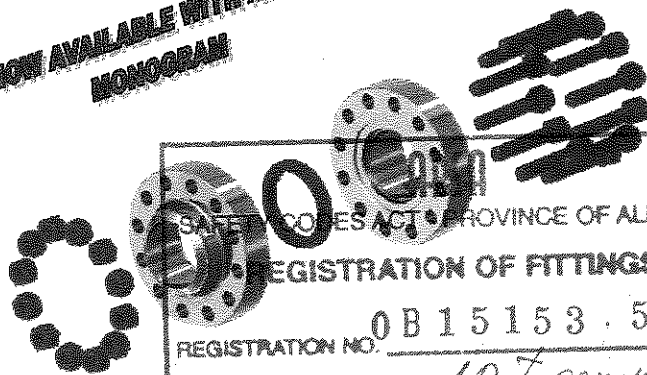
Materials - SA105, SA350-LF2, A694-F52-F70, AISI 4130, SA182-F316 (L,H), SA-182-F321(L,H), SA182-F347 (L,H), A182-F51, A182-F55, Safurex, Alloy 625, Alloy 825, Titanium and Hastaloy.

Gasket - The FlangeTec® CF Series Compact Flange uses an **all metal** Seal Ring with **over 50 years** of service history. Seal materials are selected based on application and service conditions. The **pressure energized** bore Seals are elastic by design, and therefore, **Reusable**



8" 2500# FlangeTec® ASME CF Assembly (Sch. 160)
Total Weight: 363LBS (165KGS)
vs;
8" ASME 2500lbs Flange Assembly (Sch. 160)
Total Weight: 1359LBS (618KGS)
FLANGETEC® ASME CF FLANGE 73% LESS
(actual scale, weights accurate to +/-2%)

NOW AVAILABLE WITH API 6A MONOGRAM



Design & Engineering Support - LTS provides both ASME analytical calculation methods in accordance with **Section VIII Division 1, 2 and 3 methods**, as well as **ANSYS FEA** analysis supporting dynamic load, combination loads and thermal load applications. LTS specializes in **High Pressure and High Temperature** solutions and offers integrated design analysis for skid and piping systems using in-house **CEASAR II** software.

Design Verification - Building on our extensive **HP/HT** experience, LTS offers Project specific **Prototype Testing**, as well as **Third Party** design review through DNV, Lloyds, ABS and Bureau Veritas, as required.

REGISTRATION OF FITTINGS
REGISTRATION NO. 0B15153.52
DWG. NO. or CAT. NO. API compact flanges
INITIALS MLLA
Date APR 16 2012
MILLA GRYNCHUK, P.Eng.
DESIGN SURVEY ENGINEER

see acceptance letter conditions. See