




BUYER Name	Transcanada Keystone Pipeline, LP
Bechtel Client Name	Transcanada
Project Title	KXL Pipeline
Bechtel Project Number	225472
Bechtel Document Number	25472-101-V1A-EQ00-W0004
Project Location	Steele City Canada
Bechtel PO Number	25472-101-POA-EQ00-W0001
Supplier Order number	
Applicable Tag Numbers	See Below List
Supplier Drawing Number	100014G
Supplier Rev Number	G
Document Title	PCR Mounting Using UFB Brackets (UFB-2.5-36-600-TC-NSF; UFB-2.0-30-600-TC-NFS; UFB-2.0-30-600-TC-WFS)

 25472-101-V1A-EQ00-W0004
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Supplier Document Status
Code 1

Code 1 = Work may proceed, submit certified print.
Code 2 = Revise and resubmit. Work may proceed subject to resolution of indicated comments
Code 3 = Revise and resubmit. Work may not proceed.
Code 4 = Review not required. Work may proceed.
Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the Supplier and does not relieve the Supplier from full compliance with contractual obligations.

Responsible Engineer - Srinivasan_Saradha
Date Signed - 27-Jan-2014
VP TL - VPTL-32242
Equipment No. - 121-HRDBP-B0-PCR-0014

Srinivasan_Saradha
2014/01/28
11:22:58 AM China Standard Time

UFB-2.5-36-600-TC-NFS

- 121-HRDBP-B0-PCR-0014
- 125-BDLSS-B0-PCR-0013
- 125-BDLSS-B0-PCR-0014
- 128-GRSSY-B0-PCR-0013
- 128-GRSSY-B0-PCR-0014

UFB-2.0-30-600-TC-NFS

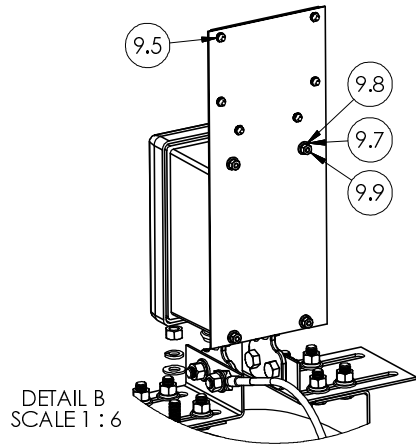
- 125-BDLSS-B0-PCR-0009
- 125-BDLSS-B0-PCR-0010
- 128-GRSSY-B0-PCR-0009
- 128-GRSSY-B0-PCR-0010

UFB-2.0-30-600-TC-WFS

- 125-BDLSS-B0-PCR-0011
- 125-BDLSS-B0-PCR-0012
- 121-HRDBP-B0-PCR-0009
- 122-LKSDE-B0-PCR-0009
- 122-LKSDE-B0-PCR-0010
- 123-MTRSP-B0-PCR-0009
- 123-MTRSP-B0-PCR-0010
- 124-OYENS-B0-PCR-0009
- 124-OYENS-B0-PCR-0010
- 126-FXVLY-B0-PCR-0009
- 126-FXVLY-B0-PCR-0010
- 127-PIAPT-B0-PCR-0009
- 127-PIAPT-B0-PCR-0010
- 128-GRSSY-B0-PCR-0011
- 128-GRSSY-B0-PCR-0012

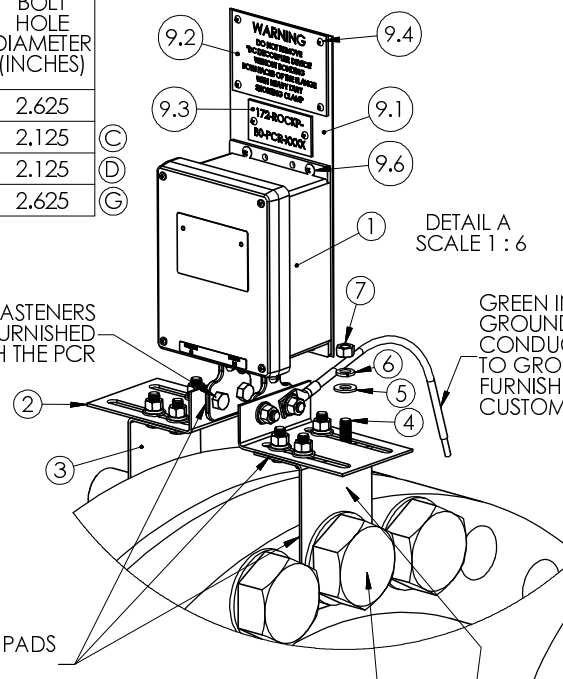
ITEM #	PIPE DIAMETER (INCHES)	CLASS (LBS)	FLANGE SPACER	CATALOG NUMBER	"X" PLATE WIDTH (INCHES)	"Y" DIM FROM PLATE EDGE (INCHES)	"Z" DIM PLATE HEIGHT (INCHES)	BOLT HOLE DIAMETER (INCHES)
1	36	600	NO	UFB-2.5-36-600-TC-NFS	5.00	2.25	7.50	2.625
2	30	600	NO	UFB-2.0-30-600-TC-NFS	5.00	2.25	7.50	2.125
3	30	600	YES (E)	UFB-2.0-30-600-TC-WFS	5.00	2.25	7.50	2.125
4	36	600	NO	UFB-2.5-36-600-TC-WFS	5.00	2.25	7.50	2.625

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
B	CREATE SUBASSEMBLY 3111 (LINE NO. 9)	2013-02-25	HNT
C	ADD UFB-2.0-30-600-TC-NFS	2013-04-18	HNT
D	ADD NOTE INSULATING SLEEVE, ADD ITEM 3 (UFB-2.0-30-600-TC-WFS), ADD X,Y AND DIA COLUMNS AND DIM VIEW	2013-04-30	HNT
E	ITEM # 3, FLANGE SPACER COLUMN CHANGED TO 'YES'	2013-06-05	HNT
F	ADDED "HEIGHT" COLUMN, ADDED GROUND CONDUCTOR	2013-07-05	HNT
G	ADDED NEW CATALOG NUMBER - ITEM #4	2013-07-18	HNT



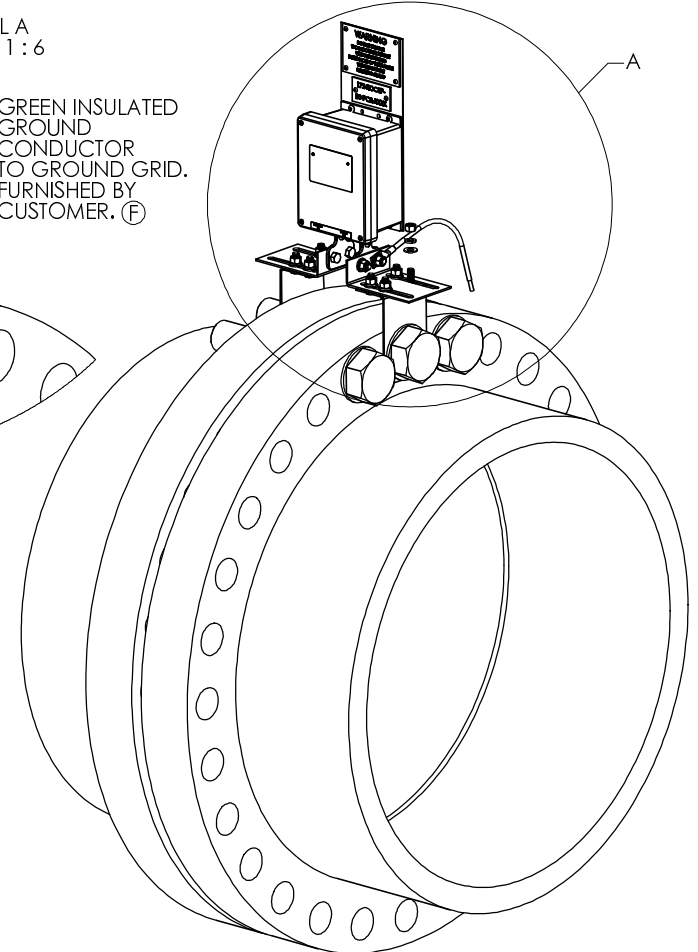
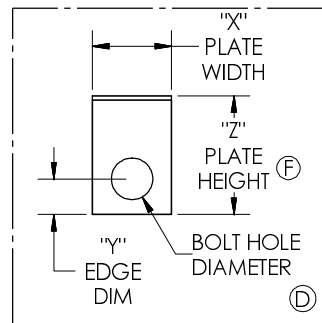
APPLY THIN LAYER OF TEFGEL ON METAL-TO-METAL INTERFACES BEFORE ASSEMBLY
 1. BRACKET B TO FLANGE FACE
 2. BRACKET B TO BRACKET A
 3. BRACKET A TO PCR TERMINAL PADS (6 PLACES)

THESE 4 FASTENERS ARE FURNISHED WITH THE PCR



GREEN INSULATED GROUND CONDUCTOR TO GROUND GRID, FURNISHED BY CUSTOMER. (F)

THE INSULATING SLEEVE ON THIS BOLT SHOULD BE 1/4" (6.35mm) LONGER THAN THE SLEEVE ON ALL OTHER BOLTS TO ACCOMMODATE THE THICKNESS OF THE TWO MOUNTING BRACKETS (D)



LINE NO.	DOCUMENT NUMBER	DESCRIPTION	QTY.
1	2692-1	PCR-5KA (S)	1
2	3091	Bracket A TC Plated	2
3	3093	Bracket B TC Plated	2
4	1019	Screw Hex 1/2-13x1.250"	8
5	1020	Washer Flat 1/2" 1.38 ODx0.09" Thick	8
6	1576	Washer Split Lock 1/2"	8
7	1021	Nut Hex 1/2-13	8
8	1206	TefGel, Anti-Corrosion Inhibitor (not shown)	4
9	3111	PMK2-TC Backplate For Flange Mount PCR w TC Labels 19 & 21	1
9.1	3147	Backplate Label TC	1
9.2	3139	LABEL Type 19 TC	1
9.3	3141	LABEL Type 21 TC	1
9.4	1358	Screw RH PH 10-32x1/2"	6
9.5	1566	Nut Keps 10-32	6
9.6	1554	Screw PH Truss Hd 1/4-20x5/8"	4
9.7	1013	Washer Flat 1/4"	4
9.8	1014	Washer Split Lock 1/4"	4
9.9	1015	Nut Hex 1/4-20	4

ANSI Y14.5M 1994 APPLIES
 UNLESS NOTED UNITS: INCHES
 3 PLACE: ±.005
 2 PLACE: ±.015
 1 PLACE / FRAC: ±.03
 ANGULAR: ±1



DESCRIPTION				
PCR MOUNTING USING UFB BRACKETS				
DOCUMENT #	REV	DATE DRAWN	DWG SIZE	DATE APPROVAL
100014	G	2013-01-09	B	2013-01-10
SCALE 1:10	DRAWN: JPW	SHEET: 1 OF 1	DWG APPROVAL: HNT	