

ETF WEST LLC
Division of Energy Task Force LLC

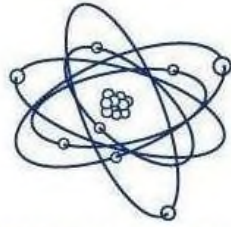
Pre-insulated pipe

7700 W Olive Ave - Peoria, AZ - 85345 - 407-523-3770 - 407-523-3722

ETF-MT Product Specification

Pre-insulated piping system designed for above ground Chilled Water, Hot Water and all other 45° to 250° medium temperature systems.

- Carrier Pipe:** Sch 40 A-53 Grade B ERW Steel
- Insulation:** Polyurethane foam: K Factor 0.14, Density 2.0 to 3.0 PCF, 90-95% closed cell conforming to mil spec -1-24172 and ASTM-C-591 completely filling the annular space between carrier pipe and jacket. Maximum service temperature of 250°
- Jacketing Material:** The outer jacket is .040" thick spiral aluminum 3003 H14
- End Seal:** Mastic end seal factory applied to insulation ends
- Insulation of Straight Joints:** After hydrostatic test, all joints are insulated using a rolled Aluminum sleeve, Silicone sealant, 2 Aluminum Bands and polyurethane foam half shells
- Fittings:** Field insulated using insulated Aluminum Jacketed half shells supplied by ETF west LLC
- Support Spacing:** All curb and hangar spacing shall be installed as specified by the engineer or ANSI B 31



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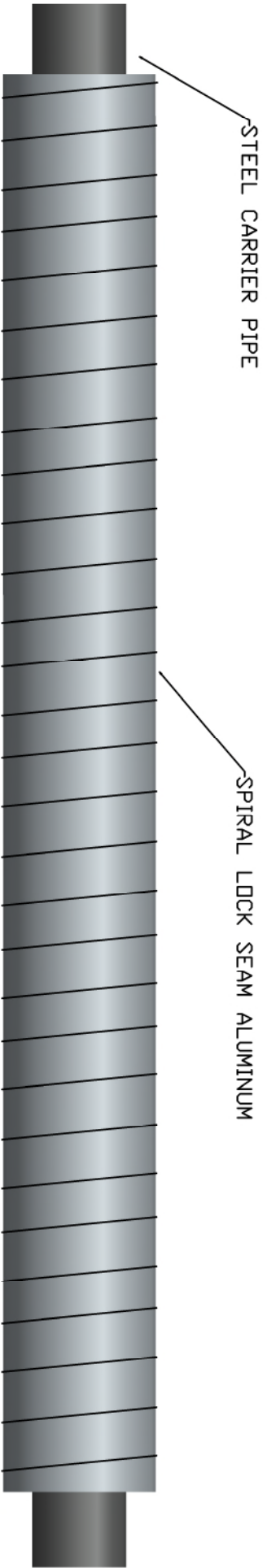
Specified Carrier Pipe / .040 Aluminum Jacket

Table 1:

Nominal Pipe Size	Minimum Insulation Thickness	Nominal Jacket Size
½"	1.0	3.0
¾"	.96	3.0
1"	.85	3.0
1 ¼"	1.1	4.0
1 ½"	1.0	4.0
2"	1.9	6.0
2 ½"	1.7	6.0
3"	1.3	6.0
4"	1.7	8.0
5"	2.2	10.0
6"	1.7	10.0
8"	1.8	12.0
10"	1.6	14.0
12"	2.0	16.0

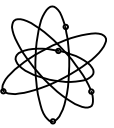
ETF WEST LLC WARRANTY

ETF West LLC warrants its products only to the extent that it will replace those proved to have manufactured defects, within a one-year period from date of delivery. ETF West must be provided an opportunity to inspect an alleged defective product and the installation application. This warranty does not provide for the expenses incurred for removal, re-installation or consequential damages arising from the defective material. There is no warranty other than that described above, and no one is authorized to issue any other warranty related to ETF West LLC products.



STEEL CARRIER PIPE

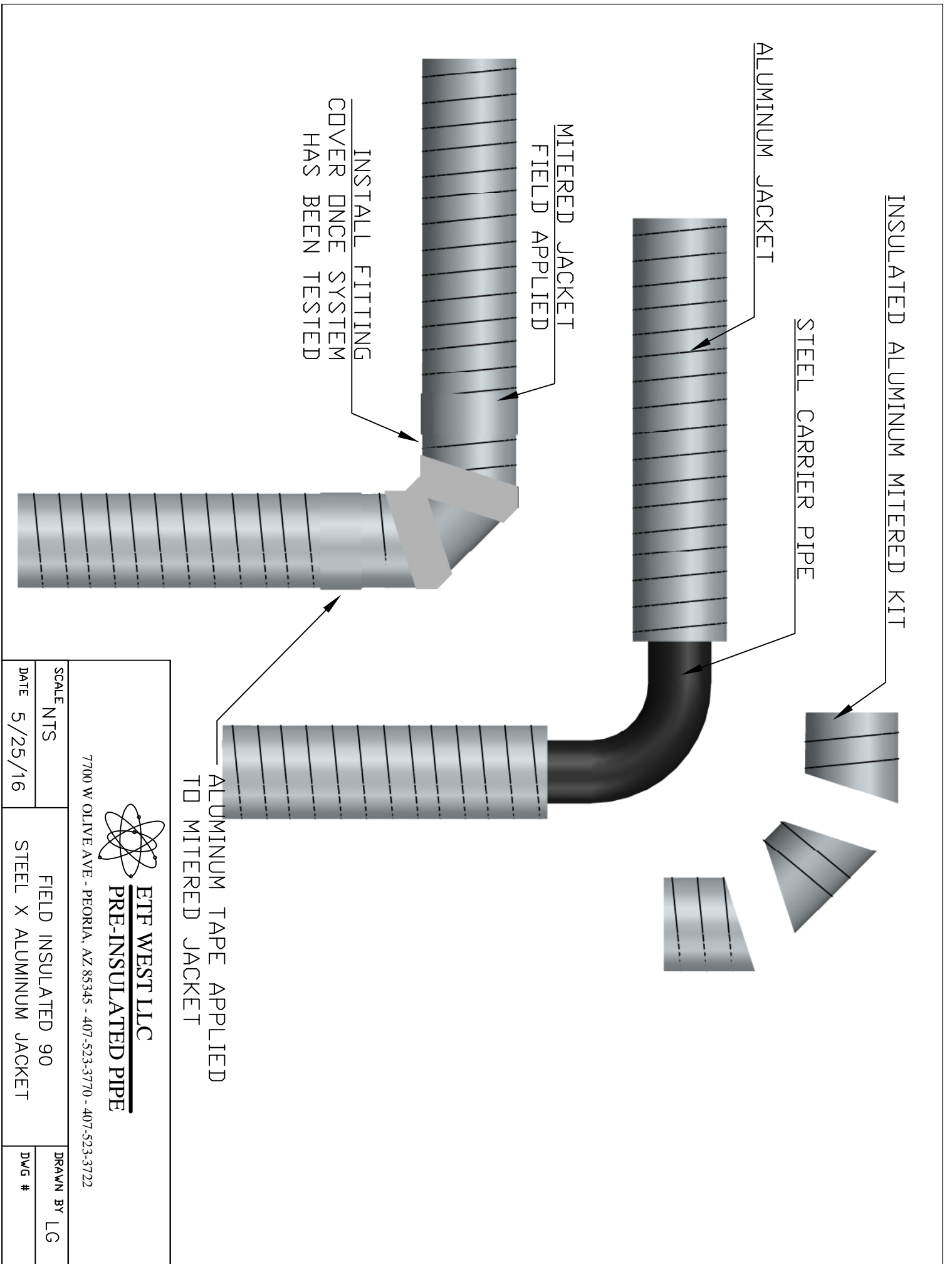
SPIRAL LOCK SEAM ALUMINUM



ETF WEST LLC
PRE-INSULATED PIPE

7700 W OLIVE AVE - PEORIA, AZ 85345 - 407-523-3770 - 407-523-3722

SCALE NTS	ALUMINUM JACKET STRAIGHT PIPE	DRAWN BY LG
DATE 7/2/16		



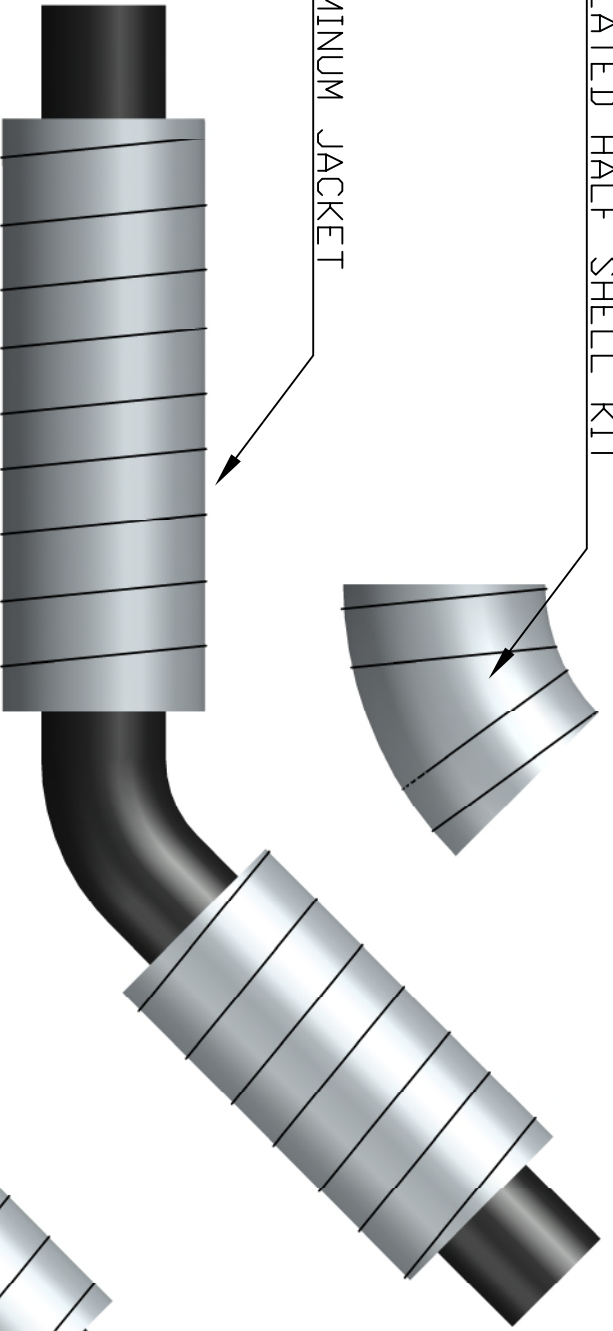
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SCALE NTS		FIELD INSULATED 90		DRAWN BY LG	
DATE 5/25/16		STEEL X ALUMINUM JACKET		DWG #	

INSULATED HALF SHELL KIT

ALUMINUM JACKET

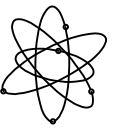


INSULATE FITTING COVER ONCE SYSTEM HAS BEEN TESTED



STEEL CARRIER PIPE

ALUMINUM TAPE APPLIED TO ALL SEAMS
JACKETED HALF SHELL FIELD APPLIED



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PRE-INSULATED PIPE

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SCALE
NTS

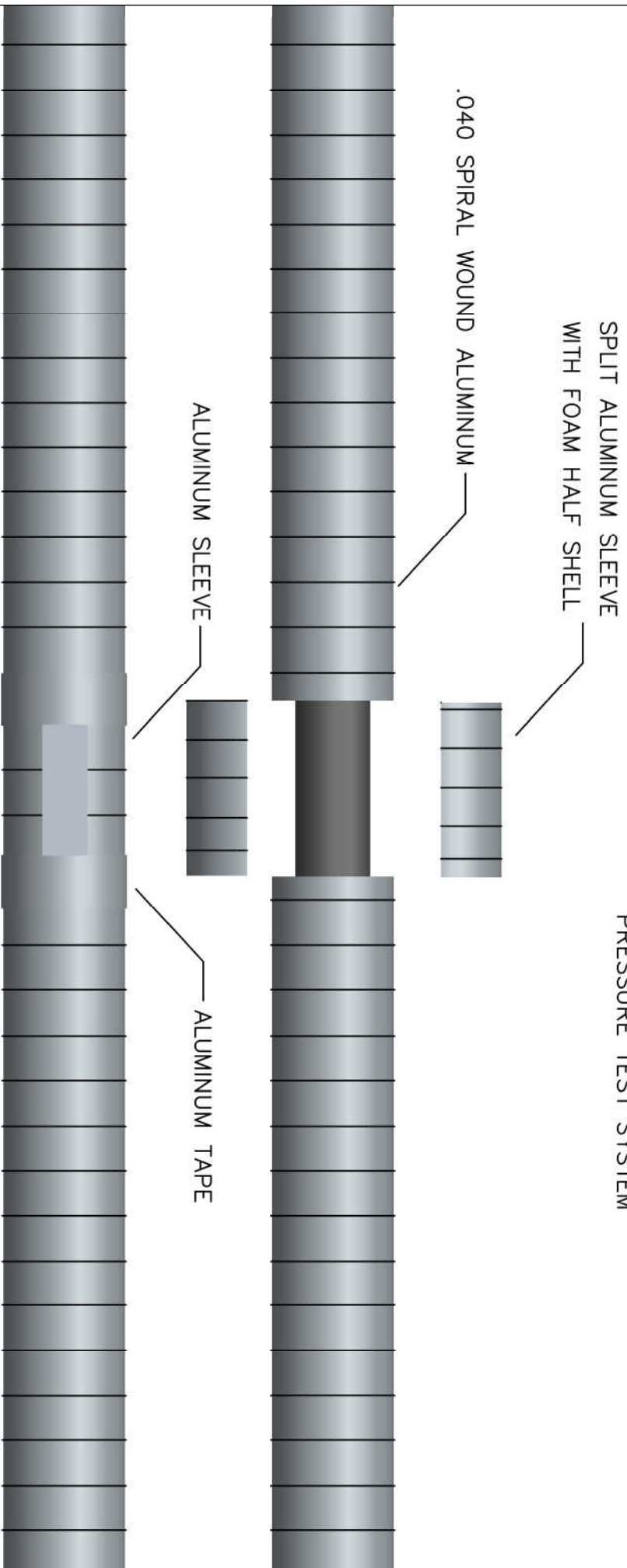
DATE 4/22/16

FIELD INSULATED 45
STEEL X HDPE JACKET

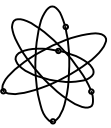
DRAWN BY
LG

DWG #

PRIOR TO INSULATING JOINT
PRESSURE TEST SYSTEM



COVER JOINT WITH ALUMINUM SLEEVE
AND POLYURETHANE FOAM HALF SHELL
WRAP SEAMS WITH ALUMINUM TAPE



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SCALE
NTS

DATE 7/2/16

ALUMINUM JACKET
FIELD JOINT DETAIL

DRAWN BY
LG

DWG #