

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2009 RQMTS. (FINAL DEFLECTED POSITION)
BY BNS 5/12/2014 VERSION Fuse 1.10.0.540 32-bit

SUBJECT: VERMONT, 34' & 31' MAST ARMS W/12' LUM ARM

FOLDER: VTTRAF FILE: 3431L12

BASE PLATE (SQUARE)

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WIDTH	=	20.00 IN
THICKNESS	=	1.500 IN
YIELD STRENGTH	=	36 KSI
STATIC COMBINED STRESS RATIO	=	0.73
BASE WELD TYPE	=	FULL-PEN

ANALYSIS OF BASE PLATE

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COMBINED STRESS RATIO	=	0.73
GROUP LOAD NUMBER	=	3
CRITICAL WIND DIRECT.*	=	50.00 DEGREES
ALIGNMENT OF THE BEND LINE	=	315.00 DEGREES
BOLT FORCE	=	50166 LBS
BOLT-TO-BEND LINE MOMENT ARM	=	3.00 IN
WIDTH OF BENDING SECTION	=	15.28 IN
APPLIED BENDING STRESS	=	26.26 KSI
ALLOWABLE BENDING STRESS	=	35.91 KSI

ANCHOR BOLTS

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QUANTITY	=	4
BOLT DIAMETER	=	1.50 IN
BOLT CIRCLE	=	19.00 IN
INITIAL BOLT ANGLE	=	45.00 DEGREES
BOLT LENGTH	=	54 IN
YIELD STRENGTH	=	55.00 KSI
STATIC COMBINED STRESS RATIO	=	0.95
FATIGUE STRESS RATIO	=	0.63