

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE  
IN ACCORDANCE WITH AASHTO-1994 RQMTS. (FINAL DEFLECTED POSITION)  
BY MLS 03/31/2010 VERSION Page 1.9.0.363

SUBJECT: MASSACHUSETTS, 35' MAST ARM (WORST CASE LOAD)

FOLDER: MATR335 FILE: 35

R E S U L T S S U M M A R Y

MAXIMUM COMBINED STRESS RATIO  
IN EACH MAJOR COMPONENT  
==== (GROUPS I, II & III) =====

POLE (AT 20.00 (FT)) = 0.97  
SIGNAL AND SIGN ARM 1 = 0.92  
BASE PLATE = 0.74  
ANCHOR BOLTS = 0.85  
S/S ARM 1 ATTACH. BOLTS = 0.50  
S/S ARM 1 ATTACH. PLATE = 0.72

MAXIMUM REACTIONS APPLIED TO FOUNDATION  
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BENDING MOMENT = 49065 FT-LBS  
TORSION = 50688 FT-LBS  
SHEAR FORCE = 2404 LBS  
AXIAL FORCE = 2070 LBS

MAXIMUM BENDING + AXIAL DEAD WT. STRESS  
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POLE = 14.87 KSI  
SIGN/SIGNAL ARM 1 = 15.77 KSI

RESULTANT DEFLECTION OF POLE TOP  
CAUSED BY DEAD WEIGHT  
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1.01 DEGREES