

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE  
 IN ACCORDANCE WITH AASHTO-2009 RQMTS.  
 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

ANALYSIS OF ANCHOR BOLTS

GROUP LOAD NO.	CRITICAL	MAX.	AXIAL FORCE (LBS)	SHEAR FORCE (LBS)	APPLIED		ALLOWABLE		BOLT CONST "K"
	WIND DIRECT* (DEG)	COMB. STRESS RATIO			STRESS (KSI)	SHEAR	STRESS (KSI)	SHEAR	
1	0	0.18	16436	0	11.66	0.00	27.50	16.50	0.60
2	55	0.70	42732	3425	30.31	2.43	36.58	21.95	0.60
3	55	0.95	50092	2159	35.53	1.53	36.58	21.95	0.60

FATIGUE ANALYSIS OF ANCHOR BOLTS

LOAD CASE	STR. RATIO	AXIAL (LBS)
NATURAL WIND GUST	0.63	6203.8
TRUCK-INDUCED GUST	0.16	-1544.1

\* THESE ARE DIRECTIONS TOWARD WHICH THE WIND IS FLOWING.