Fermilab

Particle Physics Division
Mechanical Department Engineering Note

Number: MD-ENG-050 Date: July 02 2004

Project Internal Reference: WBS 114

Project: NUMI ABSORBER

Title: 10 TON HOIST RING

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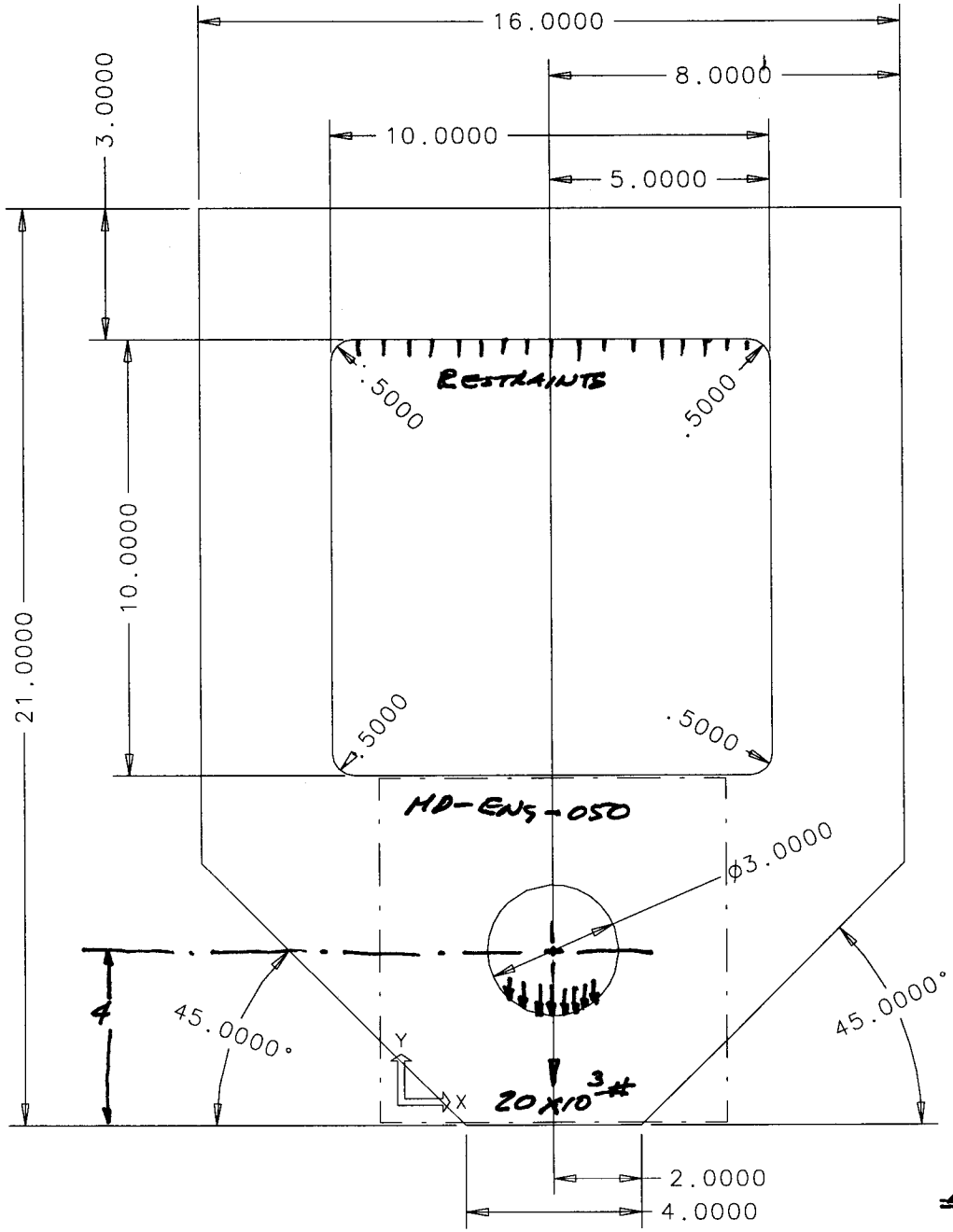
Reviewer(s): Ang Lee Aug 4, 2004

Abstract Summary: HOIST RINGS ARE TO BE USED WITH GANTRY HEADER BEAM ID NO. 041 OR BEAM WITH A CROSS-SECTION NOT TO EXCEED 9 x 9 INCH.

Applicable Codes: AISC MANUAL OF STEEL CONSTRUCTION

Test Procedure: RINGS WERE TESTED JULY 5 2004 BY SUSPENDING 125% (5 TON) LOAD AND HOLDING FOR FIVE MINUTES.
TEST WAS WITNESS BY OTTO AVAREZ
WOJCIECH BLASZYNSKI AND
ERNIE VILLEGAS.



HOIST RING

MAT'L: A36 STL. 2" THICK

WT: 110#

Y

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I-DEAS 9 m3: Simulation 15-Jun-04 14:41:01
/cadwhs/server04/ms_villegas/TAFT_HEADER_BEAM.mf1
HOIST_RING

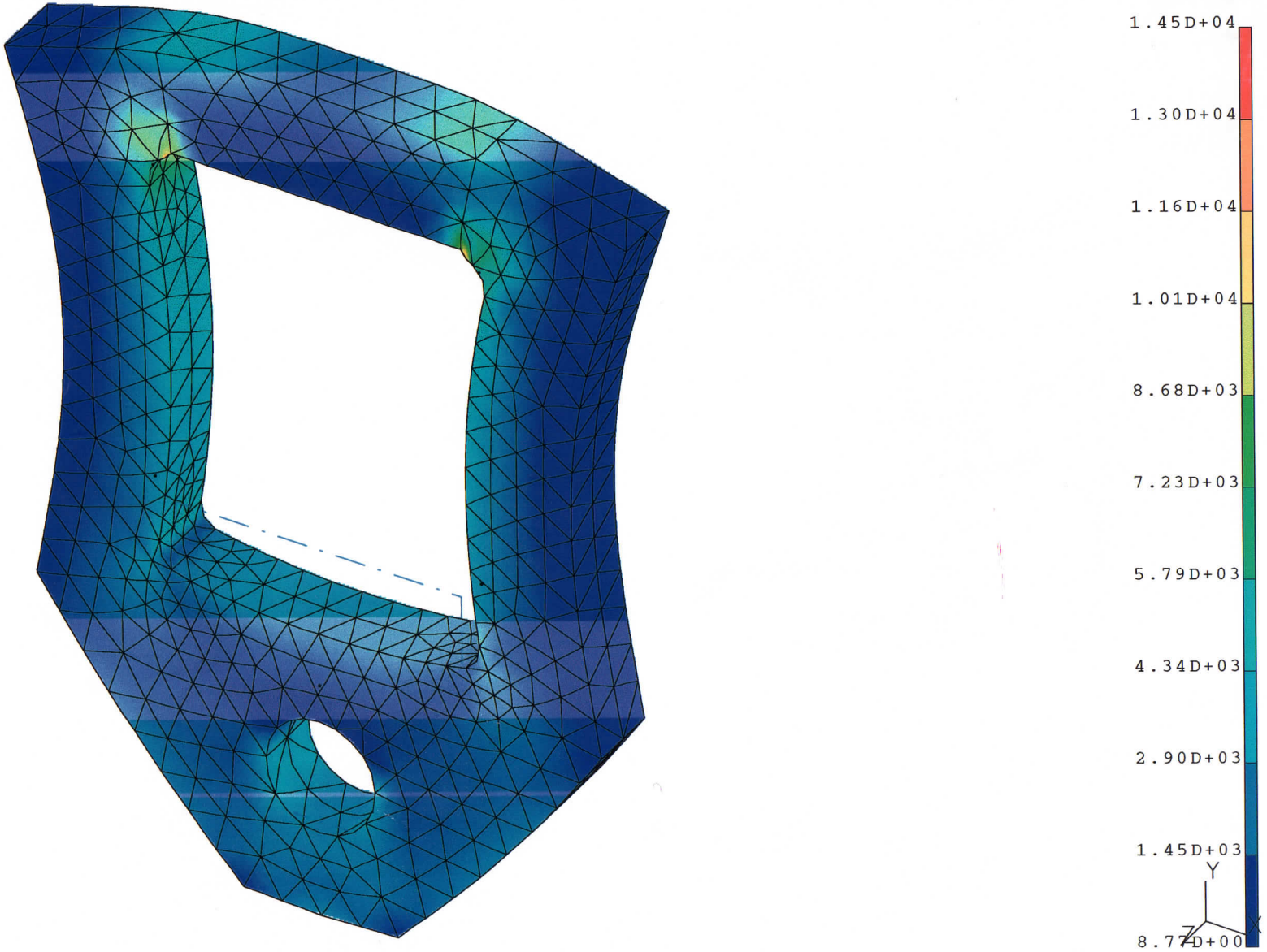
Group ID : None
Result Set : 2 - B.C. 1,STRESS_2,LOAD SET 1
Report Type : Contour Units : IN
Result Type : STRESS
Frame of Reference: Part Data Component: Von Mises

	Max Prin	Mid Prin	Min Prin	Max Shear (ALLOWED 14.4×10^3)	Von Mises (ALLOWED 21.6×10^3)	DEFORMATION
Maximum	1282 8.254E+03	1282 1.688E+03	1274 1.084E+03	156 7.615E+03	156 1.446E+04	.003
Minimum	157 -6.070E+03	156 -7.436E+03	156 -2.097E+04	1655 5.015E+00	1655 8.770E+00	
Average	1.512E+03	-6.842E-01	-6.509E+02	1.082E+03	2.050E+03	

/cadwhs/server04/ms_villegas/TAFT_HEADER_BEAM.mf1

RESULTS: 2- B.C. 1,STRESS_2,LOAD SET 1
STRESS - VON MISES MIN: 8.77E+00 MAX: 1.45E+04
DEFORMATION: 1- B.C. 1,DISPLACEMENT_1,LOAD SET 1
DISPLACEMENT - MAG MIN: 0.00E+00 MAX: 2.74E-03
FRAME OF REF: PART

VALUE OPTION:ACTUAL



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