

19/02/2007

Tony Tyson,

Kaituna-Tua Marina Road,

Marlborough

Certificate 5775 – 11571

Motor Vehicle Turntable

Owner : Tony Tyson

Manufacturer: Cuddons

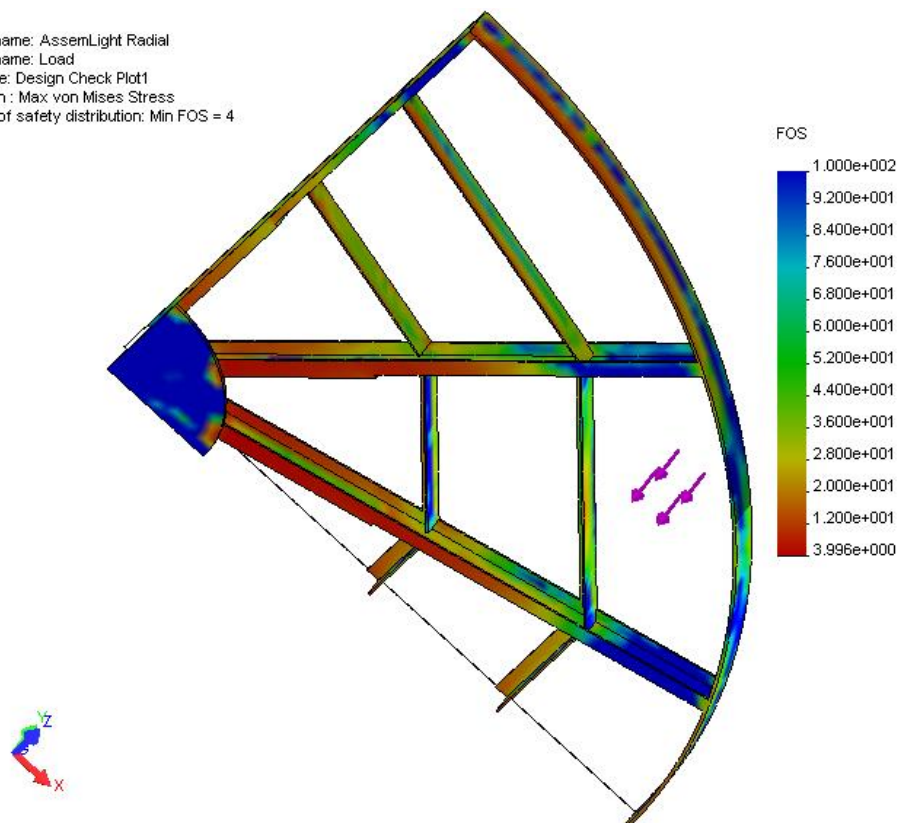
Design Load 3 Tonnes

This is to certify that the Turntable, designed to Cuddons drawings 1117002 to 1117005 as attached meets the requirements of AS 3990:1993 for the Design Load of a vehicle of 3 Tonnes mass

Basic Stress for 245mPa Grade 43 Steel $F_b = .66 \times 245 \text{ mPa}$
 $= 161 \text{ mPa}$

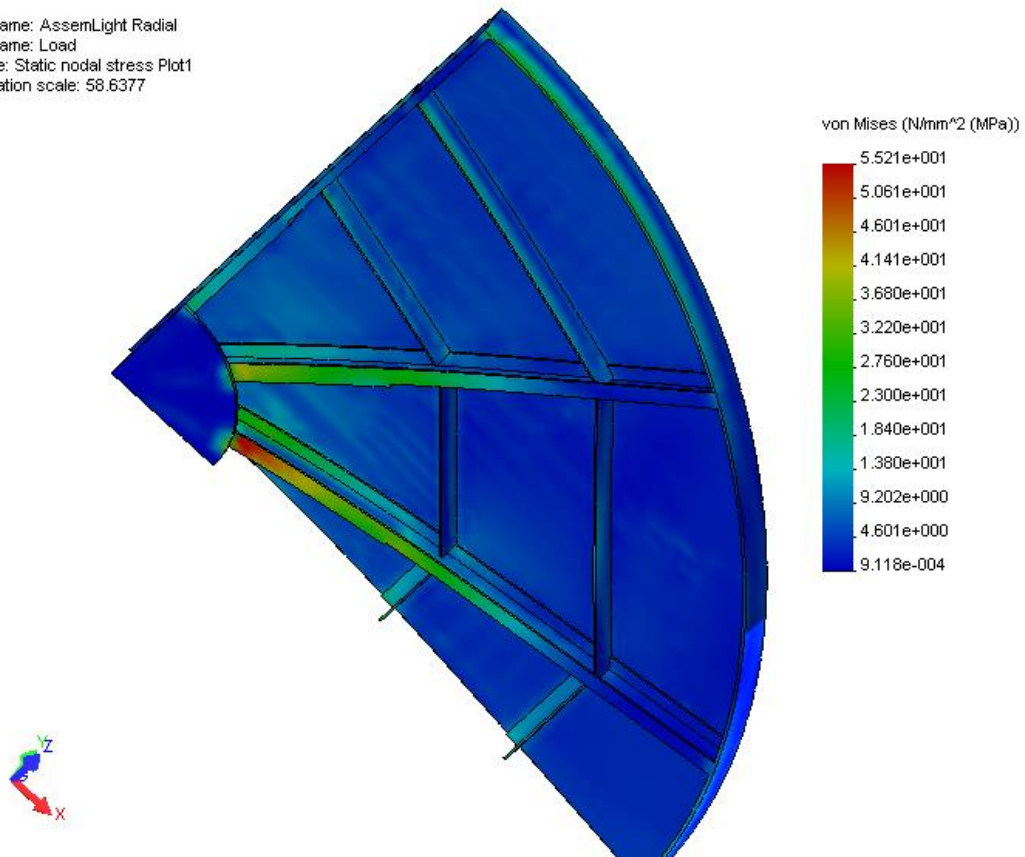
Maximum allowable compression stress in Bending $F_{bc} = .60 \times 245 \text{ mPa}$
 $= 147 \text{ mPa}$

Model name: AssenLight Radial
Study name: Load
Plot type: Design Check Plot1
Criterion : Max von Mises Stress
Factor of safety distribution: Min FOS = 4



Wheel Load on one quarter of 750 kg. Distribution of Factor of safety. Minimum FOS is 4

Model name: AssemLight Radial
Study name: Load
Plot type: Static nodal stress Plot1
Deformation scale: 58.6377

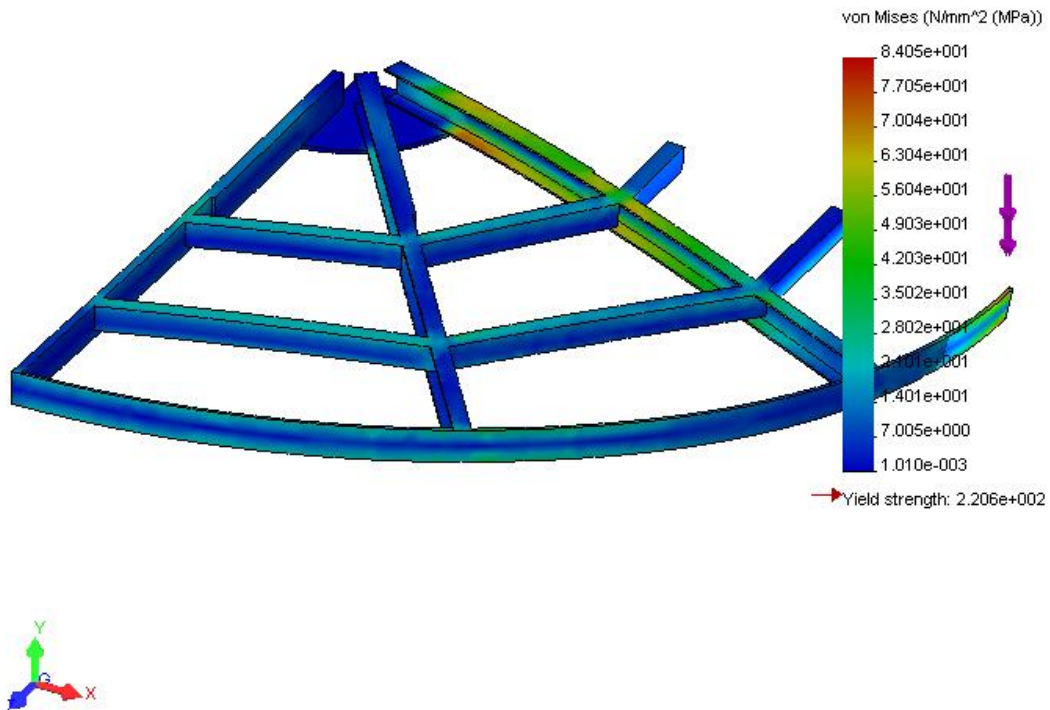


Stress with a wheel Load of 0.75 Tonnes on one quarter of the turntable. Maximum is 55mPa

*Registered Mechanical Engineer * MIPENZ * B.E (Mech.) 1st Class Honours*

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Model name: Light Radial
Study name: Rim Load
Plot type: Static nodal stress Plot1
Deformation scale: 20.7302



Frame with 375kg Load on rim. This is equivalent to turntable with 750 kg load at diametrically opposite points. Maximum stress is 84 mPa.

Finite element testing of the model was carried out, and the maximum stress of 114 mPa was obtained. Thus suitability for duty is certified.

Peter Wastney MIPENZ(Mechanical) CPEng
CHARTERED PROFESSIONAL ENGINEER
ID PW

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