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Mast Design Audit Certificate

Mast Reference Type	N600
Mast Description	202.5m Triangular Tubular Lattice Mast
Mast Type	Guyed
Manufacturer / Supplier	RTS

The tower has been audited to SANS specifications and approved for construction with respect to the following design parameters as detailed below:

Mast Outline GA Drawing No.	New Design
Design Specification	SANS 10160-3:2019
Basic Fundamental Wind Speed / 3-sec Gust	40m/s
Wind Return Period	50yrs
Terrain Category	B
Site Altitude	500m Above Mean Sea Level
Ground Datum	0m
Mast Loading	0.5m^2 at 199.5m above NGL 0.5m^2 at 196.5m above NGL
Mast Deflection	1.0 Degree
Steel Material Grade	S355JR
Bolt Grade	Grade 8.8
Mast Width	600mm c/c between main leg members
Main Leg Members	60.3mm OD 4.5mm thk Circular Hollow Section
Diagonal Members	38.1mm OD 2mm thk Circular Hollow Sections
Horizontal Members - 3m Common Section Horizontal members - Tapered Base Section	38.1mm OD 2mm thk Circular Hollow Sections 60x60x6 Equal Angles
Mast Sections	67 x 3m Common Sections 1 x 1.5m Tapered Base Section
Bolt Quantity	9xM20 Bolts (3 per leg) between 3m sections. Pal nuts to be used if self-locking nuts or lock washers are not used. M16 bolts (1 per connection) to join bracing and horizontal members to the main legs
Initial Guy Tension – G1, G2	3.1kN
Initial Guy Tension – G3, G4, G5, G6, G7, G8	5.2kN
Initial Guy Tension – G9, G10, G11, G12, G13	7.2kN
Guy Wire – G1, G2	6mm 1800MPa
Guy Wire – G3, G4, G5, G6, G7, G8	8mm 1800MPa
Guy Wire – G9, G10, G11, G12, G13	10mm 1800MPa
Internal Guy Foundation Distance from Mast Centre	39.5m for G1, G2, G3, and G4

Middle Guy Foundation Distance from Mast Centre	105.5m for G5, G6, G7, G8, and G9
Outer Guy Foundation Distance from Mast Centre	171.5m for G10, G11, G12, and G13

This document does in no way relieve the supplier of any of their responsibilities for the structure.

Mike Adair
Pr. Eng
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