



DESIGN PARAMETERS – MT66 – 2

Performance Criteria

The structure is designed for the following applied loads:

Wind load in accordance with British Standard – CP3 Chapter V Part 2 1972. Taking due account of period of exposure.

Wind speed - 42 m/s.

Wind load = 0.5 Kn/m²

No snow load has been calculated for this structure.

Large distributed and point loads can be suspended within the structure. Dominant openings are not allowed for. Talk to Rudi Enos Design 0709 578720.

Ground conditions may require extra staking, fastening, or anchorages.

All wind loadings in this example are based upon British Standard - CP3, chapter V, part 2, 1972 and a basic wind speed of 42 m/s (REF: fig 1 page 8). This wind speed is factored to give a design wind speed factored as follows (clause 5 pages 9 and 10)

- 1/ Factor S1 – A topography factor to account for cliffs and escarpments, the effects of hills and the sheltering in valleys - nominally 1.0.
- 2/ Factor S2 – A factor to account for ground roughness, building height and size. A factor of 0.63 is used for open countryside with scattered wind breaks, on a structure more than 50m in width or length. (Cp 3 Table 3, factor S2, p 11).
- 3/ Factor S3 – A statistical factor. This is taken as 0.77 which is based on the structure being temporary and subject to a wind likely to occur every 2 years. (Cp 3 Fig 2, factor S3, p 12).

BS 818 - The Structural Use of Aluminium
 BS 5958 - Part 1: 1985 - Structural Steelwork
 BS 5438 - Parts 2a & 2b - Flame Retardancy.

Fabric Technical data - Specification of Fabric Used:

FR 100 Universal - PVC coated polyester fabric.

1. Base fabric of High Tenacity Branded Polyester. (DIN 60 000)
2. PVC coated on both sides
3. High gloss lacquer surface
4. Dirt repellent
5. Easy to clean
6. Dimensionally stable
7. Resistant to cold up to -30 degrees Celsius (DIN 53 361)
8. Flame retardant (see below)
9. Mildew inhibitor biocidally treated
10. Weather resistant
11. Good resistance against ultra-violet rays
12. Light fast colours (DIN 54 004)

ENGINEERED STRUCTURAL FABRICS

Fabrics used for engineering application are usually polyester or glass fibre coated with a variety of chemical compounds. The woven base cloth carries most of the tensile forces while the coating protects the cloth against external environmental effects of ultra violet and pollution. An additional coating of clear lacquer is also applied for additional protection. These lacquers can be acrylic, PVDF (fluorine as in non stick frying pans), or Tedlar.

There are many different combinations of base cloth/coating/lacquer. The correct specification is chosen from experience, and technical and commercial considerations.

TYPE 1 STRUCTURAL FABRIC

Support cloth	(DIN 60001)	PES
Ends/picks	(DIN 53853)	9/9
Yarn	(DIN 53830)	1100
Weave	(DIN 61101)	L1/1
Grey cloth-weight	(DIN 53854)	210
Type of coating	PVC	
Total weight	(DIN 53352)	980
Tensile strength warp/weft	(DIN 53354)	3000/3000
Tear resistance warp/weft	(DIN 53363)	310/350
Adhesion	(DIN 53363)	100

Typical Flame retardancy

British	BSS867 TYPE B	(DIN 53361)
Italian	Class 2	
French	Classification M 2	
German	DIN 4102 B1	
US	NFPA 701 small and large scale	

Cold crack -40 degrees Celsius (DIN 53361)

Flexing strength no cracking after at 100,000 flexes (DIN 53359)

Widths (cm) various

COLOUR

Most prime colours are available as standard. Special colours are subject to minimum ordering quantities.

LACQUER

Various lacquers are available for different applications, such as PVDF, PTFE, Acrylic, Silicon.

Blackout cloths are available to special order.

The above data are averages from production. Fire certificates for most countries available. Product descriptions and suggested uses are general and subject to trial for the intended end use. Production is subject to change. E&OE

Welding and fabrication to be undertaken in accordance with the national steelwork specification.

Rev	Description	Date
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SSL Special Structures Lab

Mobile Structures

Mobile Stadiums Ltd
 World Leaders In
 Stage Hire | Tiered Seating | Big Top Hire

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