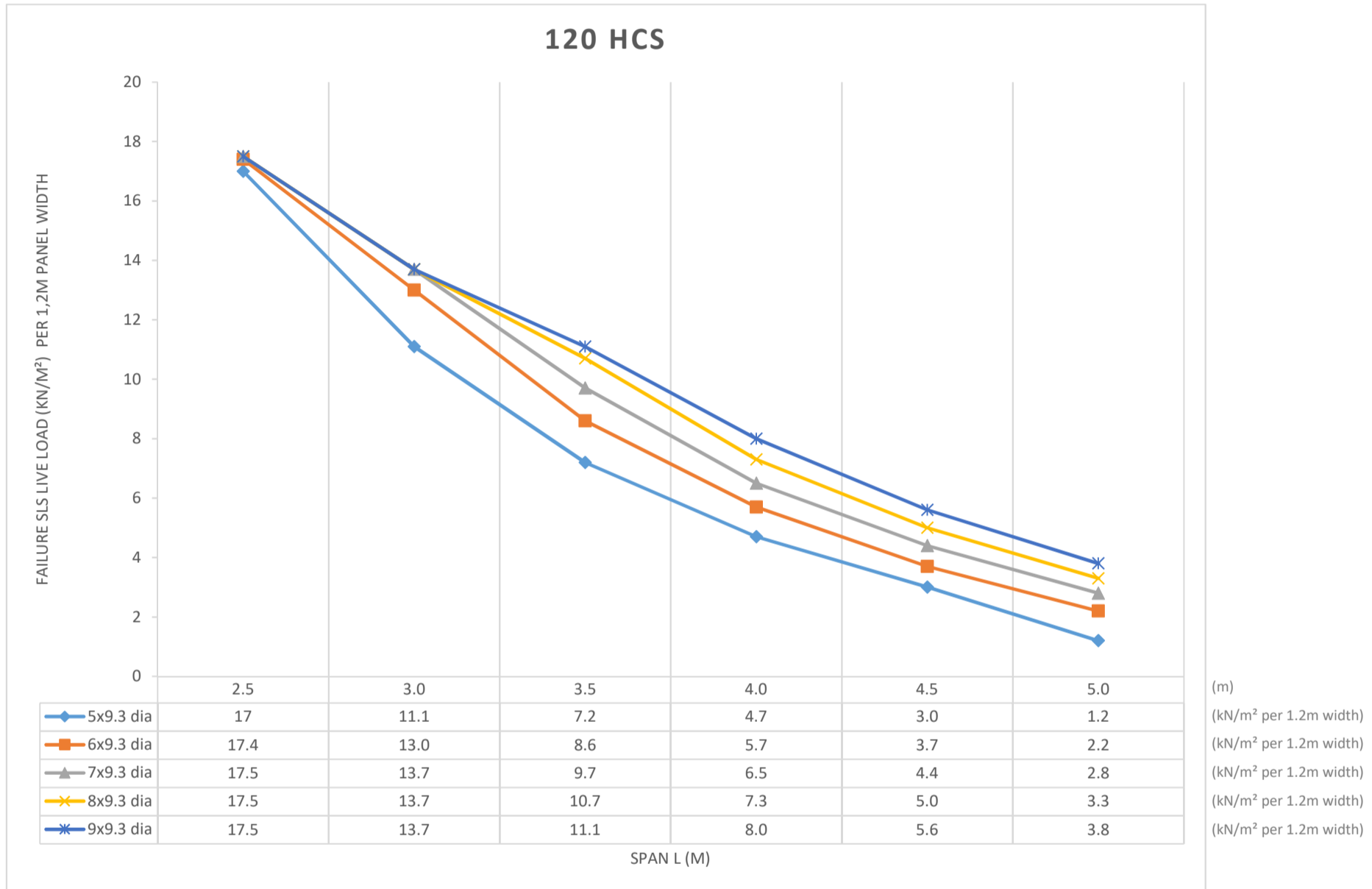**Failure loading to HCS's**

Design programme: EliSlab version 1.0.6

Design standard: BS8110

Dead Load = 1.5kPa added as standard to tables

Slab own weight included in calculations

Shear resistance enhancement (i.e. filling of slab cores) not included in these calculations

Slab width = 1.2m

Slab bearing width = 100mm [i.e. clear span = L (as per table below) less 100mm]

SLS Live Load as per tables below

ULS = 1.4xDL + 1.6xLL

Failure criteria:

        ULS ultimate moment OR shear resistance failure
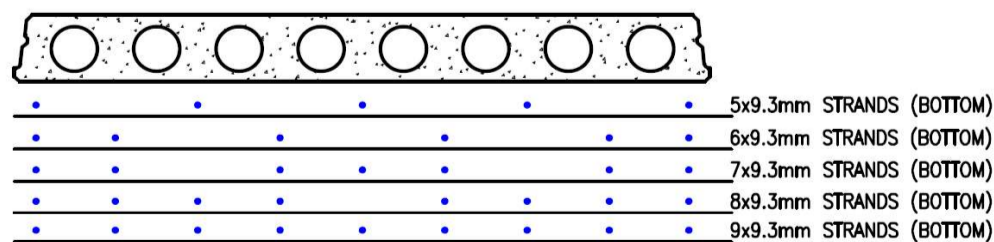
        SLS failure: deflection more than L/250

This information is based on a uniformly distributed loading. Forward Engineering / Architectural drawings to *info@elmaticsa.co.za* for a budget quotation.

120 HCS Failure Live Load (SLS)

120 HCS

	2.5	3.0	3.5	4.0	4.5	5.0	(m)
5x9.3 dia	17	11.1	7.2	4.7	3.0	1.2	(kN/m² per 1.2m width)
6x9.3 dia	17.4	13.0	8.6	5.7	3.7	2.2	(kN/m² per 1.2m width)
7x9.3 dia	17.5	13.7	9.7	6.5	4.4	2.8	(kN/m² per 1.2m width)
8x9.3 dia	17.5	13.7	10.7	7.3	5.0	3.3	(kN/m² per 1.2m width)
9x9.3 dia	17.5	13.7	11.1	8.0	5.6	3.8	(kN/m² per 1.2m width)

SPAN L (M)

Notes:
1. Design tables to be used as indicative only
2. Loads as listed are distributed Live Loads ONLY
3. Higher loads can be resisted with a thicker structural topping / thicker slab thickness
4. Although L/250 is used as a failure criteria above; deflection in excess of 20mm is not recommended and must be verified by ESA
5. Slab strand weight quantities:
        a) 5x9.3 dia: 2.0kg/m²
        b) 6x9.3 dia: 2.4kg/m²
        c) 7x9.3 dia: 2.8kg/m²
        d) 8x9.3 dia: 3.2kg/m²
        e) 9x9.3 dia: 3.6kg/m²
6. Strand Patterns:

5x9.3mm STRANDS (BOTTOM)
6x9.3mm STRANDS (BOTTOM)
7x9.3mm STRANDS (BOTTOM)
8x9.3mm STRANDS (BOTTOM)
9x9.3mm STRANDS (BOTTOM)

Slab own weight = 2.0kN/m²