Project: Angle Design	**Contract:** 1472-1
Subject: Angle Design	**Sheet No.** 0
Date: 05/01/2021	**By:** A.N

Concorde Glass Ltd.,

Linx House,

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Mablethorpe,

LN12 1LE,

UK.

Angle Design

Analysis By	Checked By
A.N	T.S.

Revision	Date	Issued By	Comment
0	05/01/2021	T.S	Issued

TSA
TED SINGLETON & ASSOCIATES
CONSULTING ENGINEERS

Project: Angle Design	**Contract:** 1472-1
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Date: 05/01/2021	**By:** A.N

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Capacity of angle at 2.5m Leg: 4

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Project: Angle Design	**Contract:** 1472-1
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Actions/Result Summary:

Actions:

$\text{Load} = 4\text{kN/m}^2$ (As per client Instruction)

Result Summary:

Angle: 75×50×8mm Angle Grade S235 Mild Steel.

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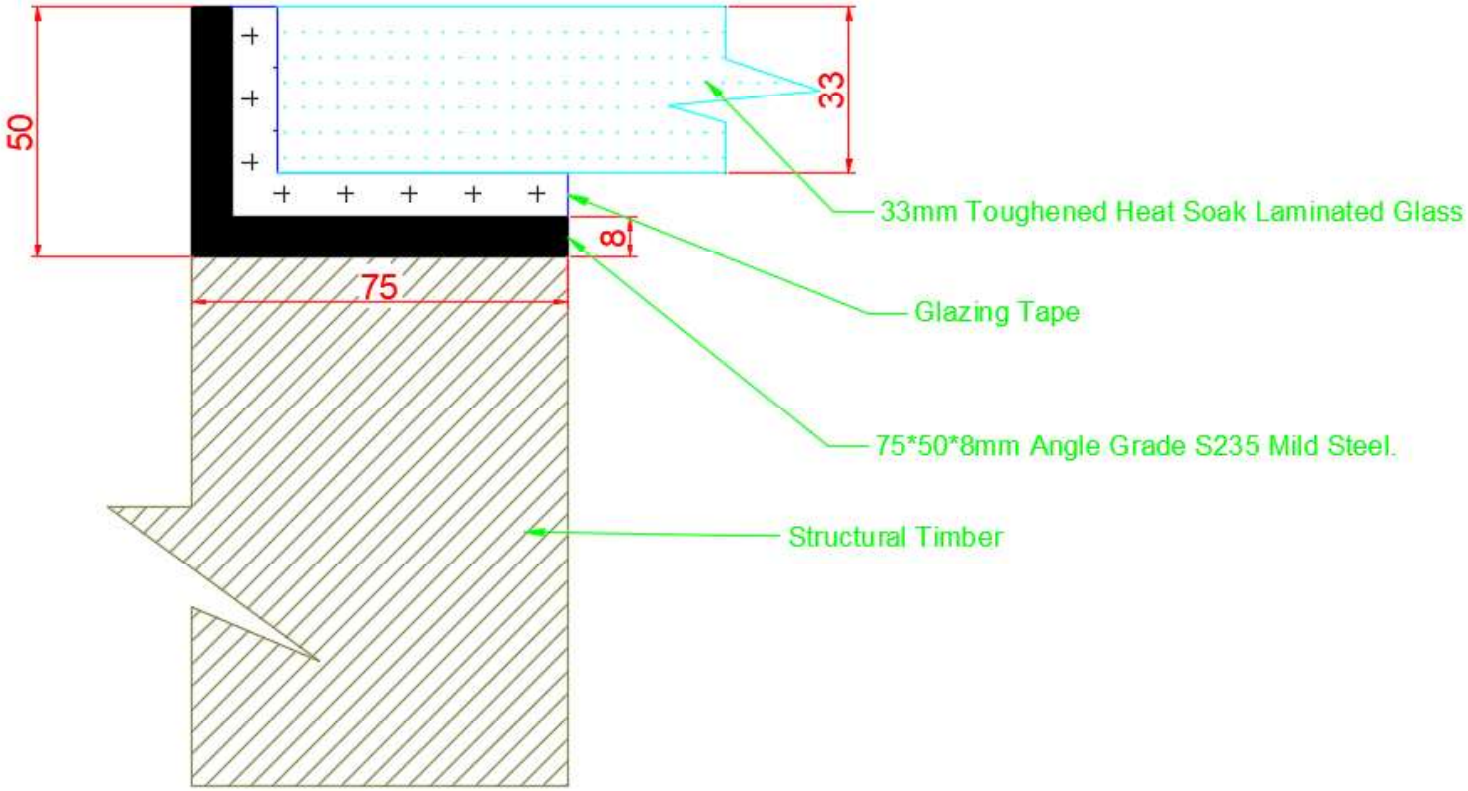
Sketch Of System:



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Project: Angle Design	Contract: 1472-1
Subject: Angle Design	Sheet No. 4
Date: 05/01/2021	By: A.N

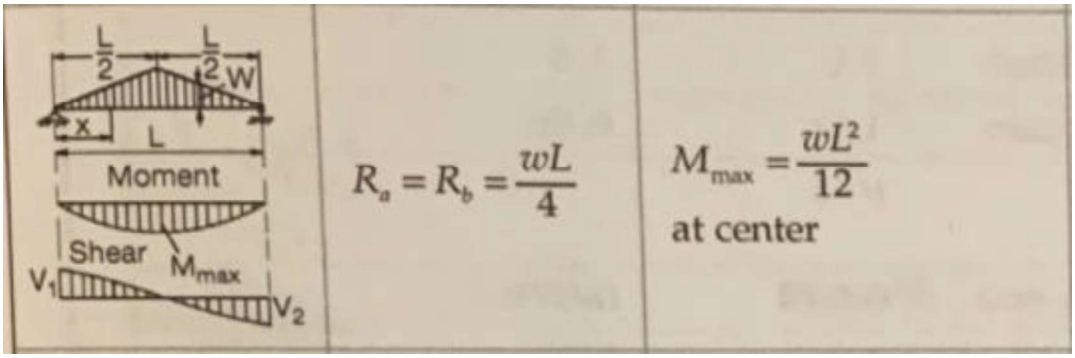
Capacity of 75mm×50mm×8mm Angle:

Capacity of angle at 1m Leg:

$$\text{Maximum Moment} = \frac{\frac{4\text{kN}}{\text{m}^2}\times 1.5\times 0.707\text{m}\times 1^2\text{m}}{12} = 0.354\text{kNm}$$

$$Z = \frac{b\times d^2}{6} = \frac{1000\times 8^2}{6} = 10666.6\text{mm}^3$$

$$\sigma_{max} = \frac{0.354\times 10^6}{10666.6} = 33.2\frac{\text{N}}{\text{mm}^2} < 235\frac{\text{N}}{\text{mm}^2}$$ **Okay**



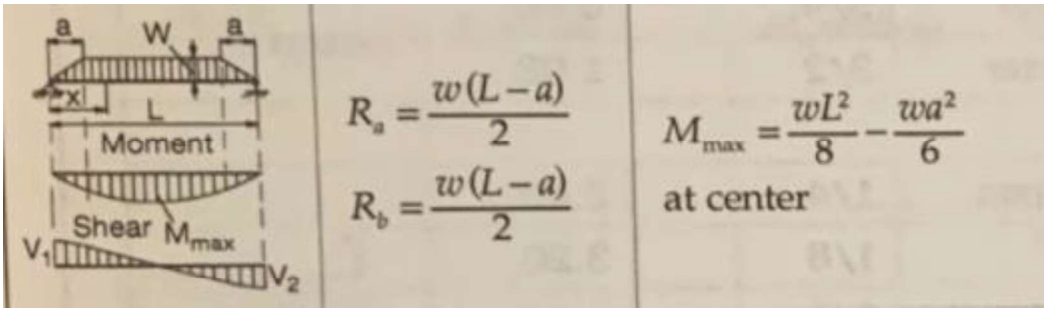
Therefore use 50mm×75mm×8mm Grade S235 Mild Steel Plate.

Capacity of angle at 2.5m Leg:

$$\text{Maximum Moment} = \left(\frac{\frac{4\text{kN}}{\text{m}^2}\times 1.5\times 2.5^2\text{m}}{8}\right) - \left(\frac{\frac{4\text{kN}}{\text{m}^2}\times 0.707\text{m}\times 1.5\times 0.5^2\text{m}}{6}\right) = 3.137\text{kNm}$$

$$Z = \frac{b\times d^2}{6} = \frac{2500\times 8^2}{6} = 26666.6\text{mm}^3$$

$$\sigma_{max} = \frac{3.137\times 10^6}{26666.6} = 118\frac{\text{N}}{\text{mm}^2} < 235\frac{\text{N}}{\text{mm}^2}$$ **Okay**



Therefore use 50mm×75mm×8mm Grade S235 Mild Steel Plate.