



Padstone Calculator

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BEAM 2 - 29 Hartfield Road Leatherhead Surrey

10/11/2023

COMPLIES WITH LATEST EUROPEAN DESIGN CODES

Structural calculations for padstones

Beam End Reaction = **43.00** kN (factored) Variable Load Safety Factor = 1.5
 Factored Load at End of Beam Permanent Load Safety Factor = 1.35

Characteristic strength of masonry = **2.6** N/mm² (Brickwork usually = 4.5 N/mm²)
 (3.6N Blockwork usually = 2.6 N/mm²)
 (A Engineering Brick = 13.2 N/mm²)
 (B Engineering Brick = 10.5 N/mm²)
 (Weak Brickwork = approx 2.8 N/mm²)
 (7.3N Blockwork usually = 4.2 N/mm²)
 (10.4N Blockwork usually = 5.4 N/mm²)

γ_m = 3.0

Bearing Factor = **1.25**

Results

Maximum Bearing Stress = **1.08** N/mm²
 Actual Bearing Stress = **1.26** N/mm²

Padstone Required

Padstone Results

Characteristic strength of Padstone = **15.0** N/mm² (A Engineering Brick = 13.2 N/mm²)
 (B Engineering Brick = 10.5 N/mm²)
 (Concrete C15 = 15 N/mm²)
 (Concrete C30 = 30 N/mm²)
 (Concrete C40 = 40 N/mm²)
 (Steel Plate = 275 N/mm²)

Width of Padstone = **270** mm
 Length of Padstone = **250** mm

Allowable padstone stress = **6.25** N/mm²
 Stress under beam end bearing = **1.26** N/mm² **Therefore Padstone Stress OK**
 Allowable masonry stress = **1.08** N/mm²
 Stress under padstone = **0.64** N/mm² **Therefore Masonry Stress OK**