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EFFECTIVE INERTIA OF THERMAL- BARRIER PROFILE

For preliminary sizing; final design shall be checked by a competent engineer according to the relevant standards.

Project	Sample Project
Subject	Mullion Structural Design
Prepared by	Structural Engineer
Approved by	Senior Structural Engineer
Date	8/24/2025

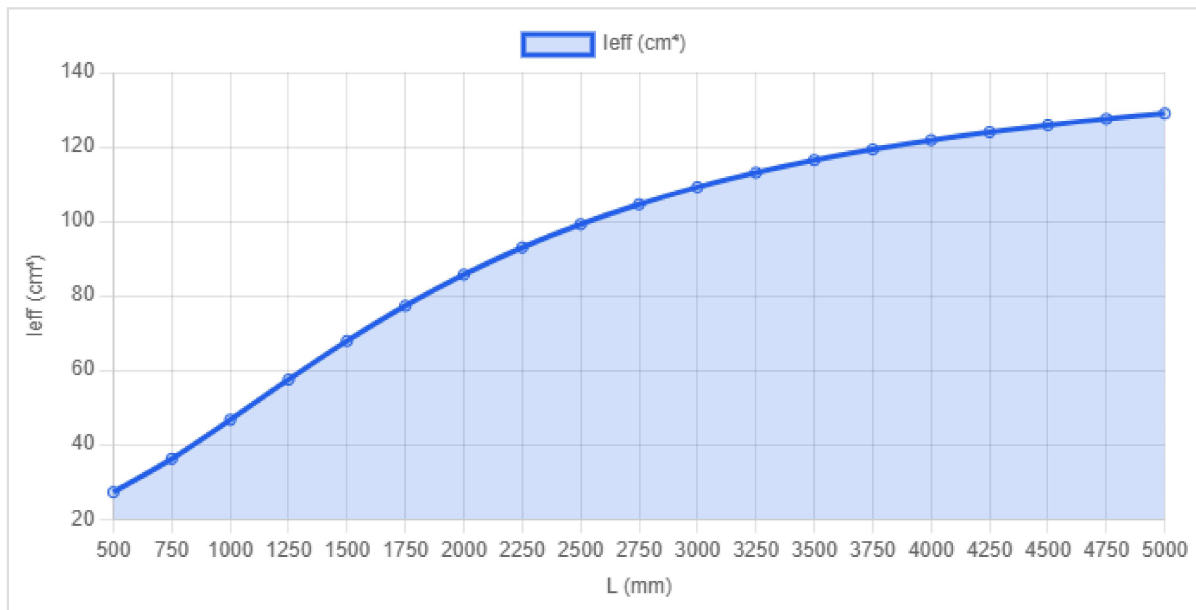
1) Inputs

A ₁ (mm ²)	248.50	I ₁ (mm ⁴)	47812.00
A ₂ (mm ²)	631.90	I ₂ (mm ⁴)	141110.00
a ₁ (mm)	60.20	a ₂ (mm)	23.70
E (N/mm ²)	70000.00	c (N/mm ²)	35.00
L (mm)	1000.00		

2) Results

I _s (mm ⁴)	1444427.85	ν	0.8692
λ	4.630	C	0.685
I _{eff} (mm ⁴)	466647.99	I _{eff} /I _s	0.323
I _{eff} (cm ⁴)	46.66		

3) I_{eff} – L Chart



4) Formulas Used (EN 14024 Annex C)

$$I_s = I_1 + I_2 + A_1 \cdot a_1^2 + A_2 \cdot a_2^2$$

$$v = (A_1 \cdot a_1^2 + A_2 \cdot a_2^2) / I_s$$

$$\lambda^2 = (c \cdot a^2 \cdot L^2) / (E \cdot I_s \cdot v \cdot (1-v))$$

$$C = \lambda^2 / (\pi^2 + \lambda^2)$$

$$I_{eff} = I_s \cdot (1-v) / (1-v \cdot C)$$