Engineering Bricks

Clay Engineering bricks are defined in BS 6100 'Glossary of building and civil engineering terms' as 'brick sized fired clay units having a dense and strong semi vitreous body, conforming to defined limits for water absorption and compressive strength.'

In BS 3921 Engineering Bricks are classified as A or B based on minimum compressive strength and maximum water absorption not falling below 70 N/mm^2 – 4.5% and 50 N/mm^2 – 7% respectively.

Engineering bricks are not included in EN 771-1, but are referenced instead in the UK National Annex that appears at the end of the Standard.

As the test method for compressive strength has changed, giving generally higher figures, the requirements have been upgraded accordingly as shown below.

		Compressive Strength N/mm^2	Water Absorption %	Net dry Density kg/m^3	Freeze/thaw resistance category	Active soluble salts content category
BS 3921	Class A	≥70	≤4.5	na	na	na
	Class B	≥50	≤7	na	na	na
BS EN 771	Class A	≥125	≤4.5	≥2200	F2	S2
	Class B	≥75	≤7	≥2100	F2	S2

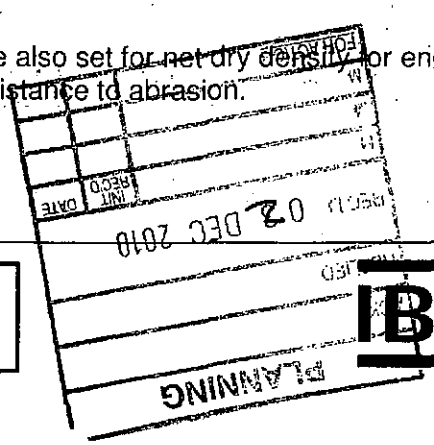
Water Absorption figures remain at 4.5% and 7%. This is because the test method for engineering bricks has not altered from the method in BS 3921.

The EN test method for units for use in Damp Proof Courses, which involves placing the bricks in boiling water for 5 hours, is used as the Engineering Brick test method.

Facing bricks undergo a different test method involving a 24 hour soak. The quoted water absorption for facing bricks should not be confused with the requirements for engineering bricks.

Clay engineering bricks must be frost resistant (categorised as F2).
Also, although it was not included as a requirement in BS 3921, UK clay engineering bricks conformed to the L category of soluble salts content. This is now S2.

Under the National Annexe, limits are also set for net dry density for engineering bricks as shown above, to emphasise their resistance to abrasion.



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