

## Durability

Unlike BS 3921, where durability designation incorporated both frost resistance and soluble salts content, BS EN 771-1 states that freeze-thaw resistance and active soluble salts content are separately categorized.

### FREEZE/THAW RESISTANCE

This must be declared by the manufacturer with reference to suitability under passive, moderate or severe exposure to saturation and freezing.

F0	Passive Exposure
F1	Moderate Exposure
F2	Severe Exposure

**F2 is deemed frost resistant in all normal building situations when used in accordance with the appropriate Codes of Practice.**

**F0 products should only be used for protected or internal walling.**

### ACTIVE SOLUBLE SALTS CONTENT

When sampled and tested in accordance with BS EN772-5 the content of water soluble salts should be no greater than tabled below.

Category	Total % by mass not greater than	
	Na <sup>+</sup> + K <sup>+</sup>	Mg <sup>2+</sup>
S0	No requirement	No requirement
S1	0,17	0,08
S2	0,06	0,03

((Na<sup>+</sup> = Sodium) (K<sup>+</sup> = Potassium) (Mg<sup>2+</sup> = Magnesium))

The laboratory test is similar to that in BS3921, but the results are categorised differently.

S2 products are suitable for brickwork subject to prolonged saturation, S1 is for normal exposure and S0 for completely protected walls (i.e internal or rendered or clad).

**e.g bricks required for chimneys, parapets and walling exposed to wind driven rain should be specified as F2S2.**

**Internal walling can be specified as F0S0.**

The use of Sulfate Resisting Portland cement is recommended when using S1 category products in exposed locations.