

TECHNICAL INFORMATION SHEET 31

Durability of masonry in finished construction (based on Table 12 - BS 5628 pt 3)

Condition or situation	Durability of Brick	Mortar Designation
Work below or near external ground level (below dpc)		
High risk of saturation and freezing (masonry most vulnerable is situated 150mm above and 150mm below finished ground level)	F2 S2 or S1*	(i) (ii)* *consider sulphate resisting Portland cement
Masonry dpcs		
In buildings	F2 DPC Engineering A	(i)
In external works	F2 DPC Engineering B	(i)
External fair faced wall (other than chimneys, cappings, copings, parapets, sills)		
Low risk of saturation (sheltered areas)	F2,F1 S2,S1	(i), (ii), (iii) good detailing still required to minimise saturation of walling
High risk of saturation	F2 S2,S1*	(i), (ii)* *consider sulphate resisting Portland cement
Rendered external walls *consider sulphate resisting Portland cement in joints and base coat of render.	F2, F1 S2, S1* Do not use F1, S1 with full fill cavity insulation.	(i), (ii)*, (iii)*
Internal walls and inner leaves of cavity walls above dpc	F2, F1,F0 S2, S1, S0	(i), (ii), (iii), (iv)* *must be fully protected from saturation and freezing.
Parapets (unrendered) other than cappings or copings		
High risk of saturation	F2 S2, S1*	(i), (ii) *consider sulphate resisting Portland cement
Rendered parapets		
consider sulphate resisting Portland cement in joints and base coat of render. Only render one side of single leaf walls.	F2, F1 &+S2 Or S1	(i), (ii), (iii) (i), (ii)
Chimneys		
High risk of saturation. Consider sulphate resistant Portland cement to protect against flue gasses Use copings to afford adequate protection.	F2 - S2, S1	(i), (ii)
Rendered Chimneys consider sulphate resisting Portland cement in joints and any render protect against flue gasses.	F2, F1 + S2 Or S1	(i),(ii), (iii) (i), (ii)
Cappings, Copings & Sills		
	F2 - S2, S1	(i)
Freestanding boundary walls (below capping/coping)		
With coping (preferred method) Dpcs should be provided at base of wall (Engineering B)- and under capping/coping (flexible high bond type)	F2, F1+ S2 Or S1*	(i), (ii), (iii) (i), (ii) *consider sulphate resisting Portland cement
With capping Dpcs should be provided at base of wall (Engineering B)- and under capping/coping (flexible high bond type)	F2 - S2*, S1*	(i), (ii)* *consider sulphate resisting Portland cement
Earth Retaining Walls (careful choice of materials to exclude water is recommended)		
With waterproofing on retaining face and coping	F2, F1 S2, S1	(i), (ii)
With Coping or Capping but no waterproofing on retaining face.	F2 S2, S1	(i)
Drainage & Sewage – manholes, inspection chambers etc.		
Surface water drains	Engineering A or B F2, F1 + S2, S1*	(i) *consider sulphate resisting Portland cement
Foul drainage (continuous or occasional contact with masonry)	Engineering A or B F2, F1 + S2, S1*	(i) *consider sulphate resisting Portland cement

Mortar designation assumes the use of OPC or CEM 1. For other types of cement seek cement manufacturers recommendations.

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