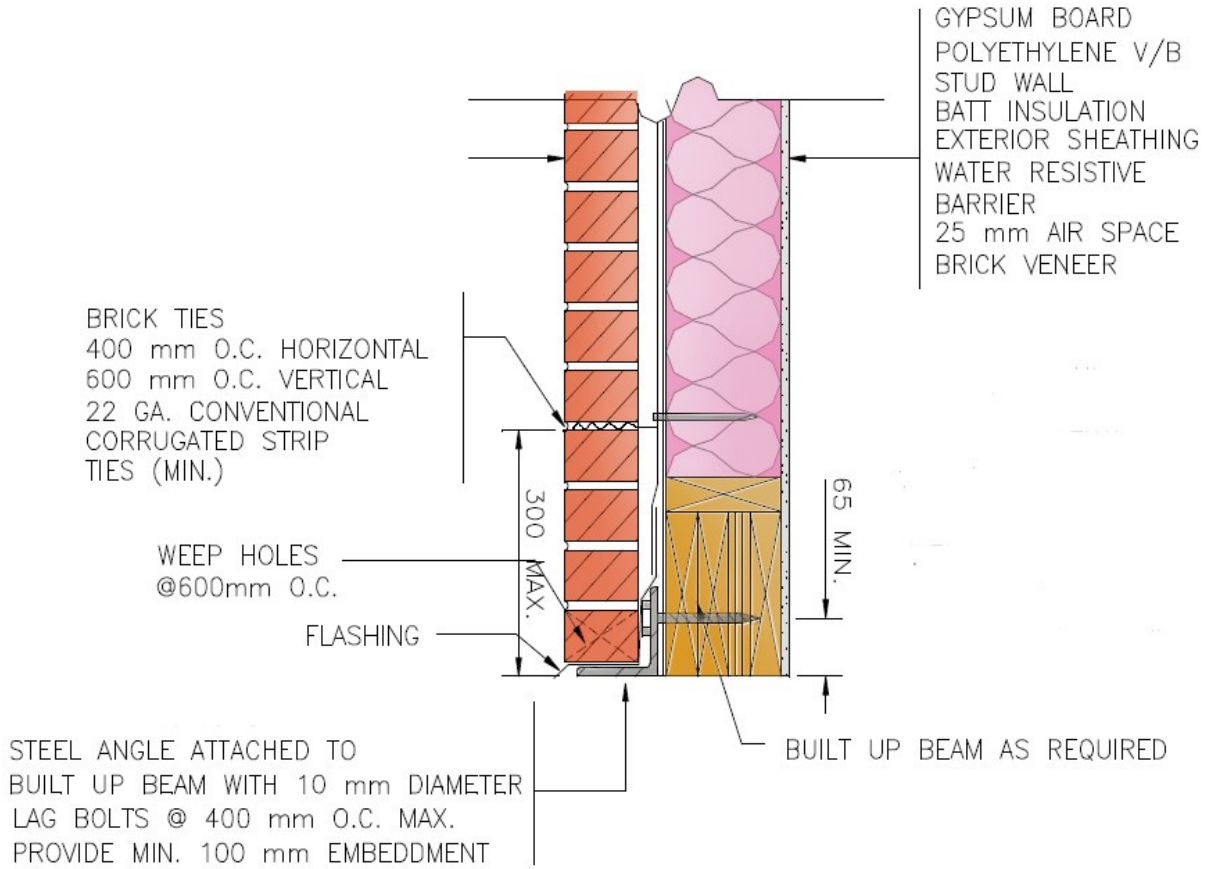


Design Detail for Brick Veneer over Garage Doors

Introduction

Clay brick veneer (75 or 90mm wide) is frequently installed on steel angles above garage doors. There is some provision for this in the National Building Code but the span required for a double wide garage door exceeds the table in article 9.20.5.2. A loose lintel, i.e. without intermediate support, bearing only on masonry at each end is allowed in the National Building Code and this is incorporated in the table below. This technical note provides the engineering basis for installing up to 8 feet of brick veneer over both single and double garage door openings. Above 8 feet, the load is transferred to brickwork on either side of the lintel.



Opening Span	Brick Thickness	Vertical Leg	Steel Angle Horizontal Leg	Thickness	Intermediate Support	Wood Lam Beam
2743mm (9')	75mm	100mm 90mm	90mm 90mm	6mm 6mm	Not required 400mm o/c	- 3 – 2x8 SS* or 2- 2x10 SS
2743mm (9')	90mm	125mm 90mm	90mm 90mm	8mm 6mm	Not required 400mm o/c	- 3 – 2x8 SS or 2- 2x10 SS
4877mm (16')	75mm	90mm	90mm	6mm	400mm o/c	2 ply 1.75x11.875” LVL selectem 1.8 or equal* or 3 – 2x12 SS
4877mm (16')	90mm	90mm	90mm	6mm	400mm o/c	

Notes:

1. *SS means Select Structural dimensional lumber, usually #2 SPF or DF. LVL examples include Westlam, Timberstrand.
2. National Building Code article: 9.20.5.2
3. Steel angle lintels supporting masonry shall be prime painted or otherwise protected from corrosion.
4. Assumed weights for installed brickwork: 125 kg/m² for 75mm wide cored clay brick; 157 kg/m² for 90mm wide cored clay brick. This detail applies to cored, clay brick only and does not apply to dimensional stone or concrete units.
5. Minimum bearing on masonry of steel angle support at each end is 90mm.
6. Assumes no upper floor or roof loading and a conventional gable design.
7. Arching action transfers the load up at a 45° angle and brick above 8 feet over a 16 foot lintel does not bear on the lintel.