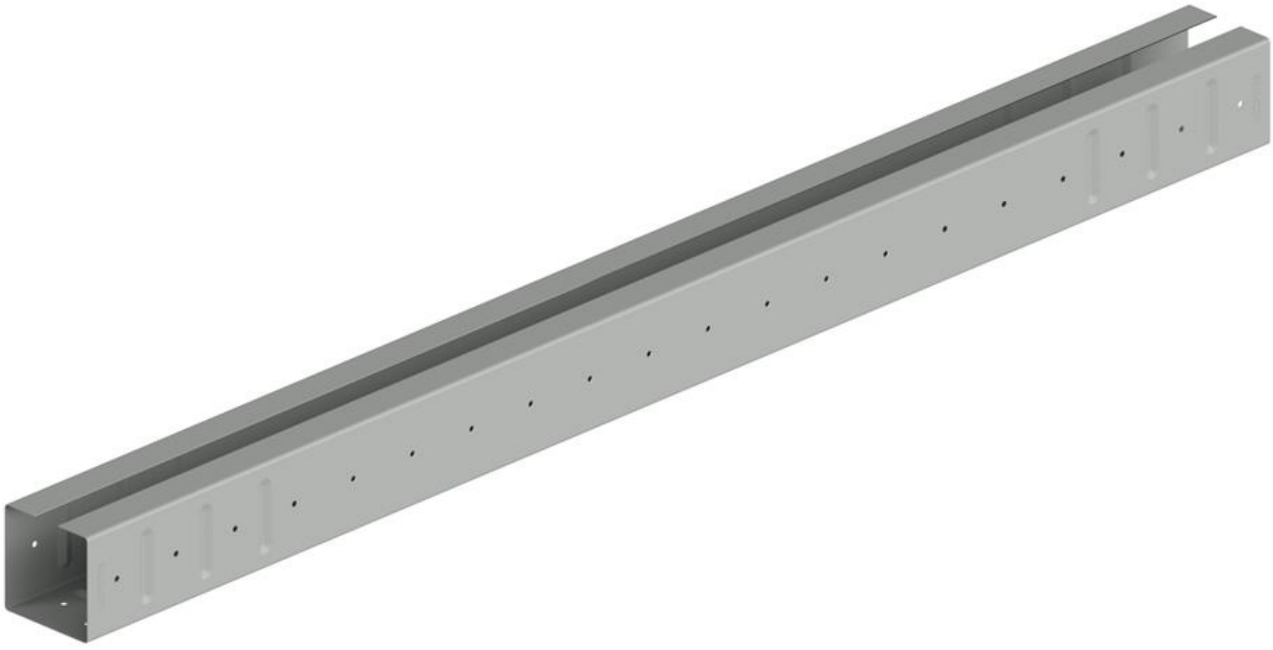
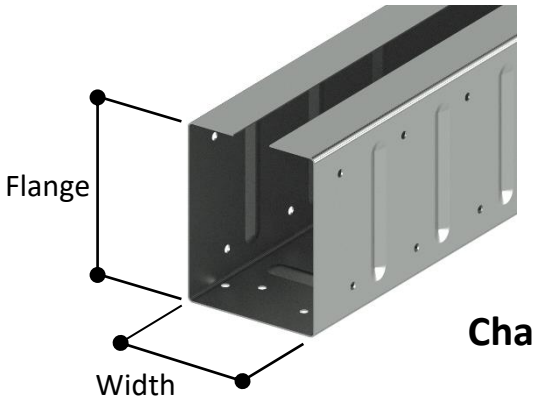
StiFlex

Lightweight Modular Steel Lintels



developed by
Dyntek

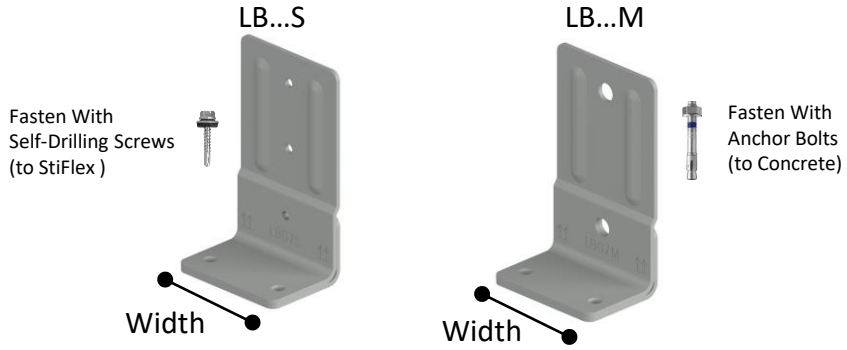
StiFlex Channel Lintel – bearing and bracket supports



Channel Lintel LC …

Channel Lintel Product Code	Width (mm)	Flange (mm)	Applicable Masonry Wall Thickness (mm)	Standard Lintel Length (mm)	2 Sides End Bearing Max. 450mm | Min. 150mm Opening SIZE range		1 Side End Bearing Max. 450mm | Min. 150mm Opening SIZE range	
LC070706	70	70	90-100	900	-	600	450	750
LC070908	70	90	90-100	1200	300	900	750	1050
LC090908	90	90	125-150	1500	600	1200	1050	1350
LC120908	120	90	125-150	1800	900	1500	1350	1650
LC121408	120	140	125-150	2100	1200	1800	1650	1950
2xLC070706	70	70	Min. 190	2400	1500	2100	1950	2250
2xLC070908	70	90	Min. 190	2700	1800	2400	2250	2550
2xLC090908	90	90	Min. 190	3000	2100	2700	2550	2850
				3300	2400	3000	2850	3150
				3600	2700	3300	3150	3450
				3900	3000	3600	3450	3750

StiFlex Channel Lintel – bearing and bracket supports



Bracket LB …

Bracket Product Code	**Width** (mm)	**Applicable Channel Lintel** Product Code	**Application**
LB07S (3nos. Screws)(10g+24tpi)	70	LC070706, LC070908, 2 x LC070706, 2 x LC070908	Connect to StiFlex Vertical
LB07M (2nos. Anchors)(M8)			Connect to Reinforced Concrete
LB09S (3nos. Screws)(10g+24tpi)	90	LC090908, 2 x LC090908	Connect to StiFlex Vertical
LB09M (2nos. Anchors)(M8)			Connect to Reinforced Concrete
LB12S (4nos. Screws)(10g+24tpi)	120	LC120908, LC121408	Connect to StiFlex Vertical
LB12M (4nos. Anchors)(M8)			Connect to Reinforced Concrete

Design
meets with specifications of:

- BS 5977-1 Method for assessment of load
- BS EN 845-2 Specifications for ancillary components for masonry
- BS 5950-5 Structural use of steelwork in building – Code of practice for design of cold formed sections

Manufacture
complies with requirements of:

- EN 10162 Cold rolled steel sections – Technical delivery conditions – Dimensions and cross-sectional tolerances

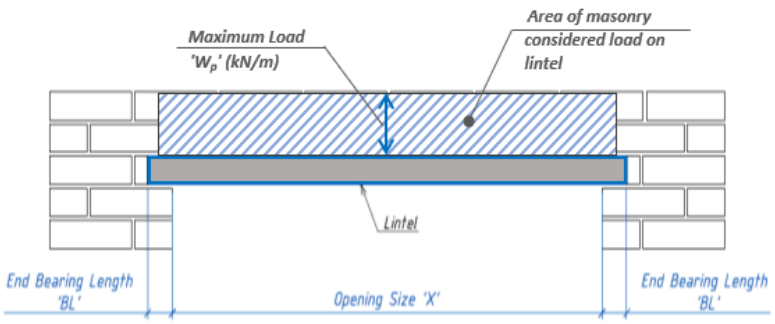
Material
conforms to specifications of:

- JIS G 3302 SGC340 for galvanized steel with both satisfying non-alloy Zn 275 requirements of min. triple-spot average zinc coating mass of 275g/m^2

Fire Insulation
tested in accordance with:

- EN 1365-1 Fire resistance tests for loadbearing elements for walls, achieved up to 2-hour rating for loadbearing capacity, integrity and insulation performance
  Note: For fire insulation requirement exceeding 2-hour complying to EN 1365-1, alternative StiFlex lintel can be provided

Lintel LC Capacity against Opening for Uniform Load
(applicable to Lintel Support Scenario 1, 2 and 3)



End bearing length, BL = 150mm

Opening 'X' (mm)	Allowable Uniform Load 'Wp' (kN/m) for Lintel LC Types							
	LC070706	LC070908	LC090908	LC120908	LC121408	2xLC070706	2xLC070908	2xLC090908
600	4.1	6.7	6.7	6.7	7.2	8.2	13.4	13.4
700	3.7	6.0	6.0	6.0	6.5	7.4	12.0	12.0
800	3.3	5.5	5.5	5.5	5.9	6.6	11.0	11.0
900	3.1	5.0	5.0	5.0	5.4	6.2	10.0	10.0
1000	2.7	4.6	4.6	4.5	5.0	5.4	9.2	9.2
1100	2.4	4.0	4.0	3.9	4.6	4.8	8.0	8.0
1200	2.0	3.5	3.5	3.4	4.3	4.0	7.0	7.0
1300	1.8	3.1	3.0	3.0	3.9	3.6	6.2	6.0
1400	1.6	2.7	2.7	2.6	3.4	3.2	5.4	5.4
1500	1.4	2.4	2.4	2.3	3.1	2.8	4.8	4.8
1600	1.2	2.1	2.1	2.1	2.7	2.4	4.2	4.2
1700	1.0	1.9	1.9	1.9	2.5	2.0	3.8	3.8
1800	0.9	1.7	1.7	1.7	2.2	1.8	3.4	3.4
1900	0.7	1.6	1.6	1.5	2.0	1.4	3.2	3.2
2000	0.6	1.4	1.4	1.4	1.9	1.2	2.8	2.8
2100	0.6	1.3	1.3	1.2	1.7	1.2	2.6	2.6
2200	0.5	1.1	1.2	1.1	1.6	1.0	2.2	2.4
2300	0.4	1.0	1.1	1.0	1.4	0.8	2.0	2.2
2400	0.4	0.9	1.0	1.0	1.3	0.8	1.8	2.0
2500	0.3	0.8	0.9	0.9	1.2	0.6	1.6	1.8
2600	0.3	0.7	0.8	0.8	1.1	0.6	1.4	1.6
2700	0.3	0.6	0.7	0.8	1.0	0.6	1.2	1.4
2800	0.2	0.6	0.6	0.7	1.0	0.4	1.2	1.2
2900	0.2	0.5	0.6	0.6	0.9	0.4	1.0	1.2
3000	0.2	0.5	0.5	0.6	0.9	0.4	1.0	1.0
3100	0.2	0.4	0.5	0.5	0.8	0.4	0.8	1.0
3200	0.2	0.4	0.4	0.5	0.8	0.4	0.8	0.8
3300	0.2	0.3	0.4	0.4	0.7	0.4	0.6	0.8
3400	0.1	0.2	0.3	0.3	0.7	0.2	0.6	0.6
3500	0.1	0.2	0.3	0.3	0.6	0.2	0.6	0.6
3600	0.1	0.2	0.3	0.3	0.6	0.2	0.6	0.6

Wall Type	Density (kN/m³)
Brick (red clay, good quality)	23.0
Concrete Block (solid)	22.0
Concrete Block (hollow)	11.0
AAC/ALC Block	7.0
Gypsum Block	11.0

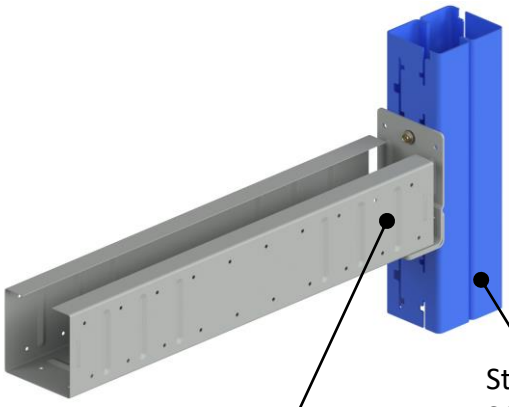
Plaster / Skim-coat Density = 20.0 kN/m³ (Coarse/Fine Mortar)

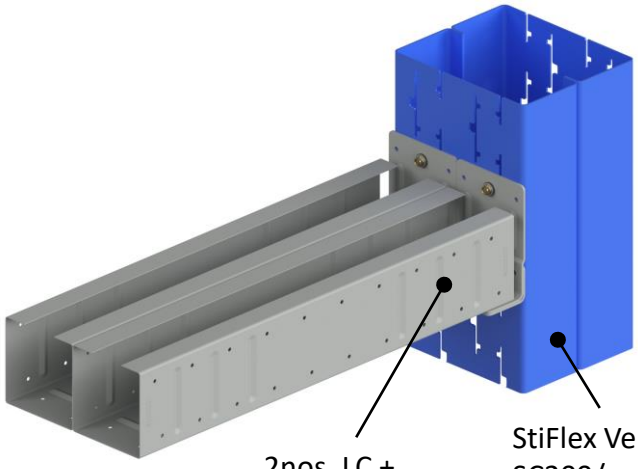
$$\textbf{Maximum Height of Wall Above Lintel (m)} = \frac{\textbf{Wp (kN/m)}}{\textbf{[Wall Density (kN/m}^3\textbf{) x Wall Thickness (m)]} + \textbf{[Plaster Density (kN/m}^3\textbf{) x Plaster Thickness both sides (m)]}}$$

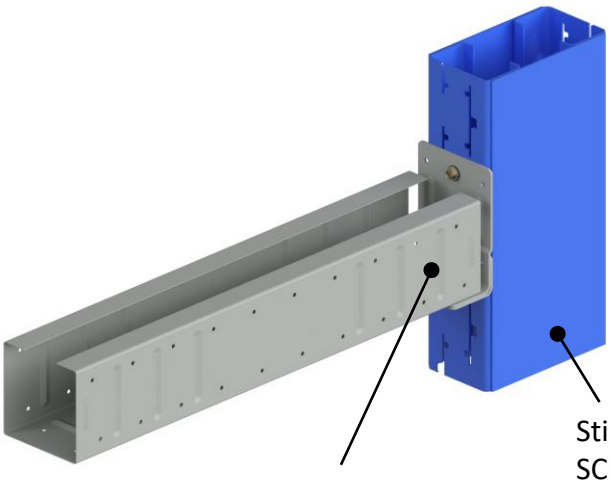
StiFlex Channel Lintel Application

Brick/Block wall on Single Channel Lintel

Brick/Block wall on Double Channel Lintel

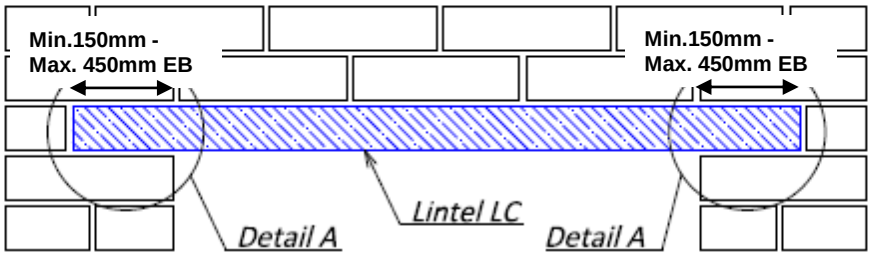




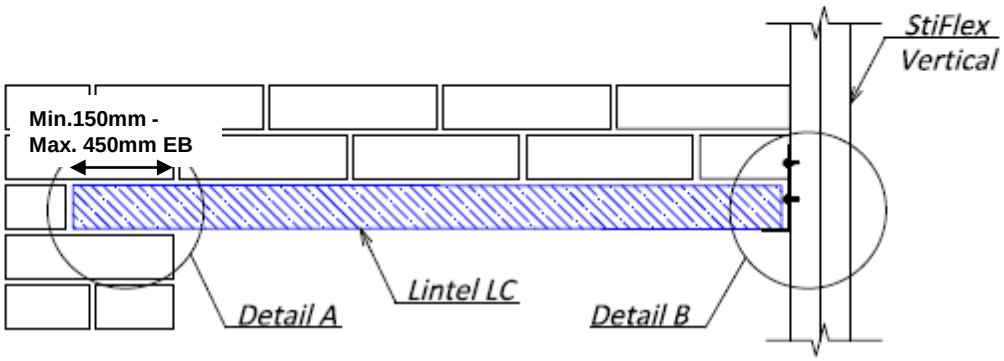


StiFlex Channel Lintel Application

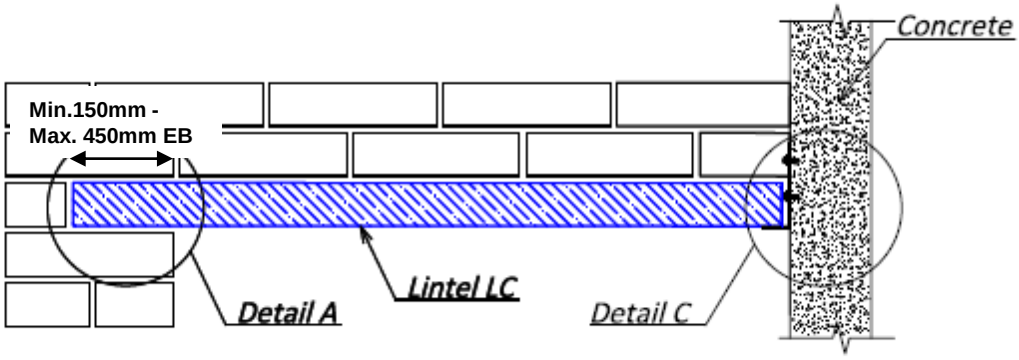
Lintel Support Scenario 1



Lintel Support Scenario 2

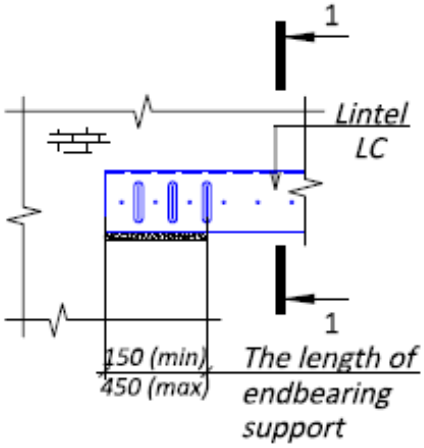


Lintel Support Scenario 3

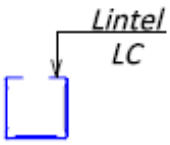


Legend:
EB: **End-Bearing** (of LC Channel Lintel)

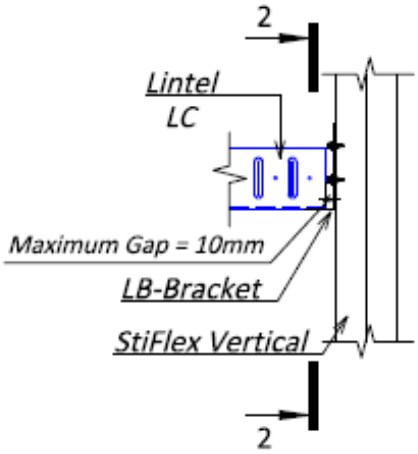
Detail A



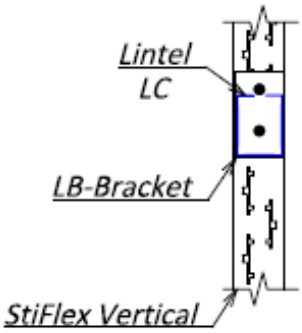
1-1



Detail B
(Fixation by Self Drilling Screws)



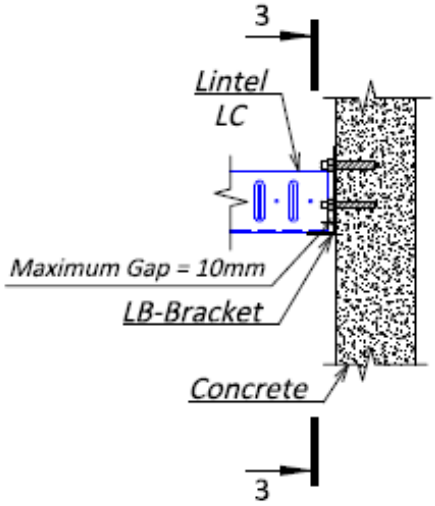
2-2



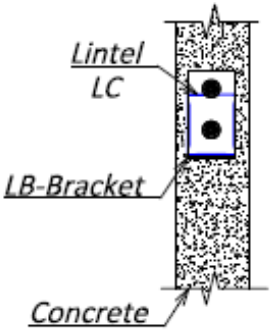
LB Bracket

LB…S

Detail C
(Fixation by M8 Bolts)



3-3



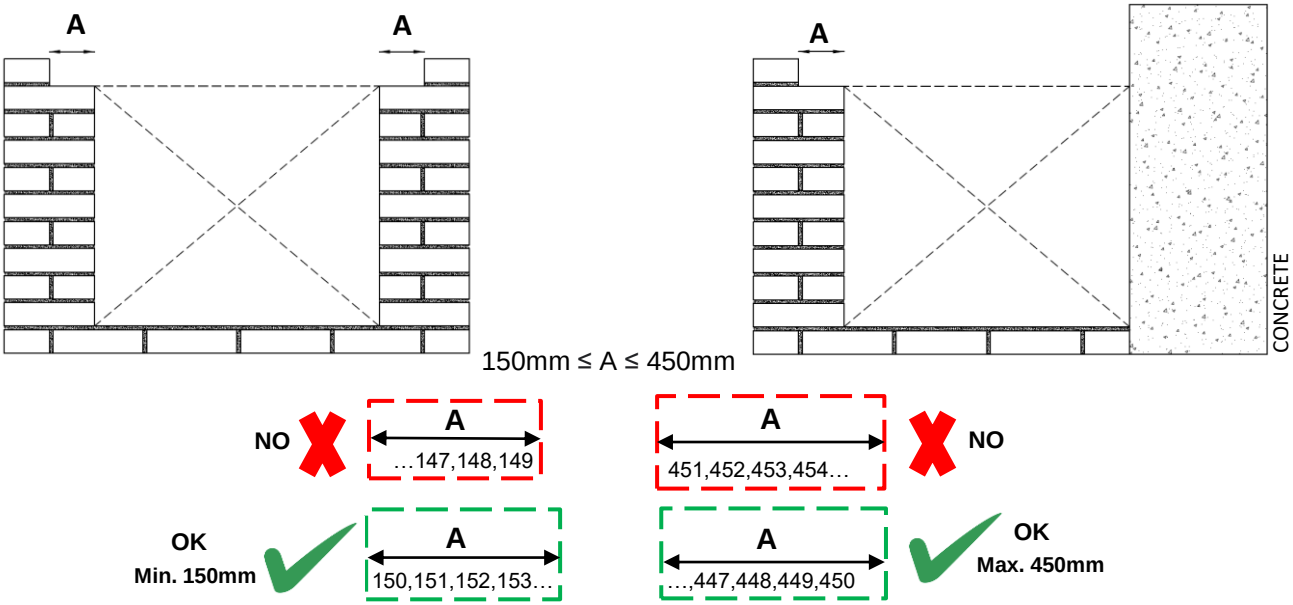
LB…M

StiFlex Channel Lintel – Installation Guide

(Both Sides End-Bearing)

(One Side End-Bearing,
One Side Concrete Structure)

1



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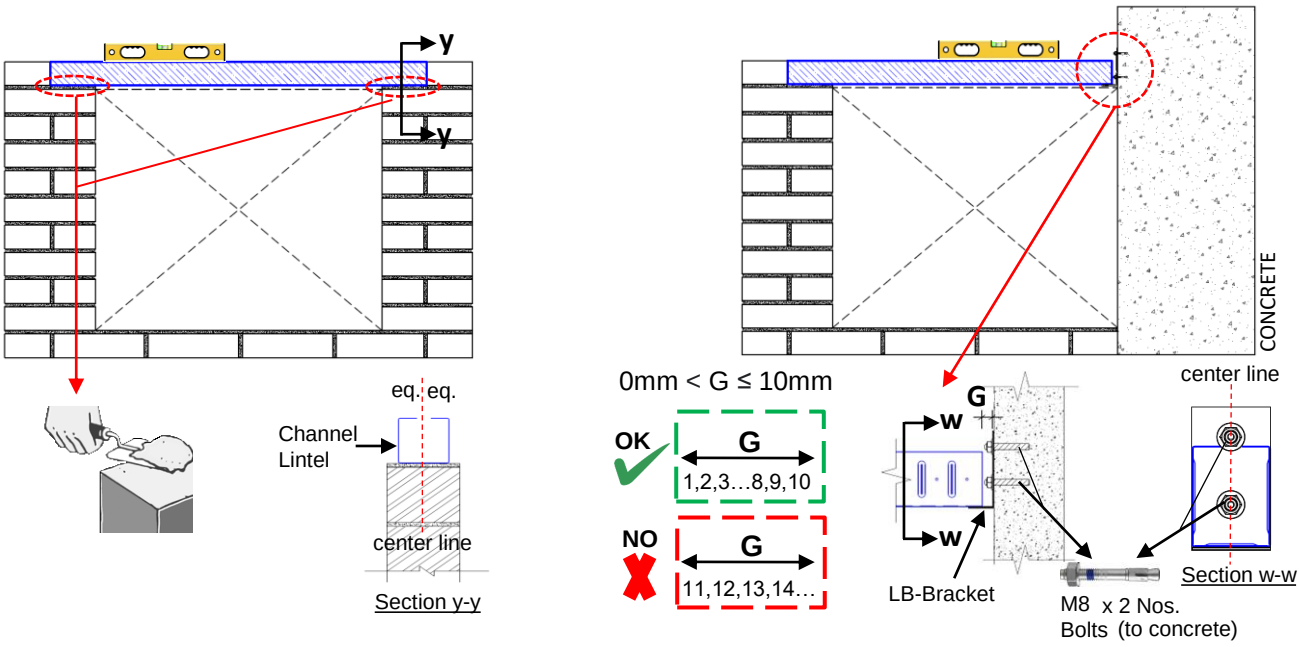

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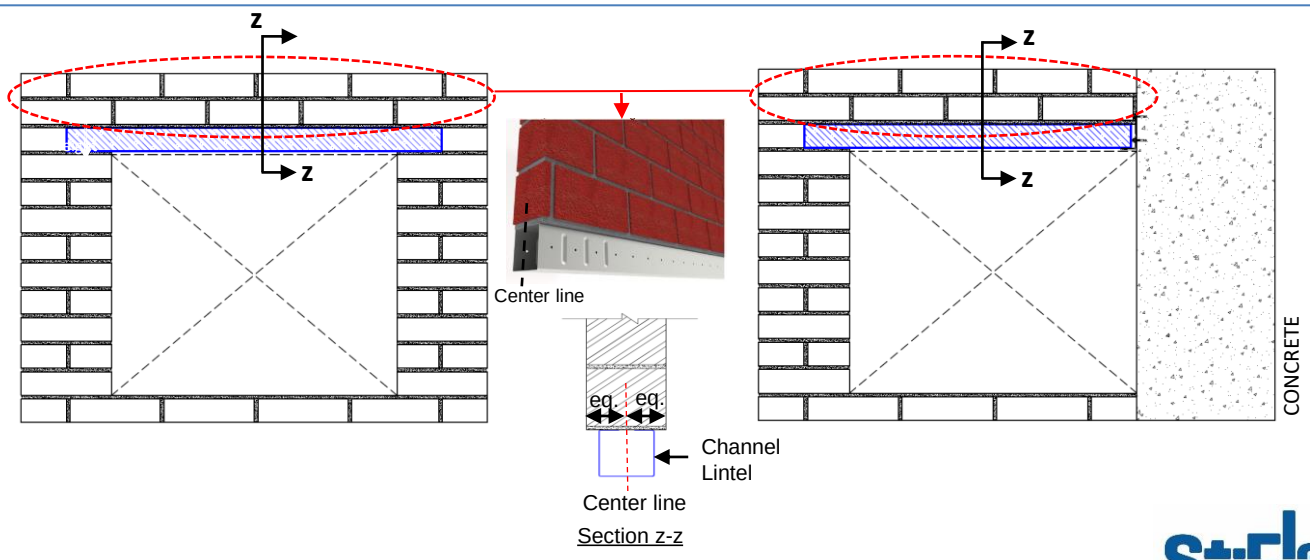
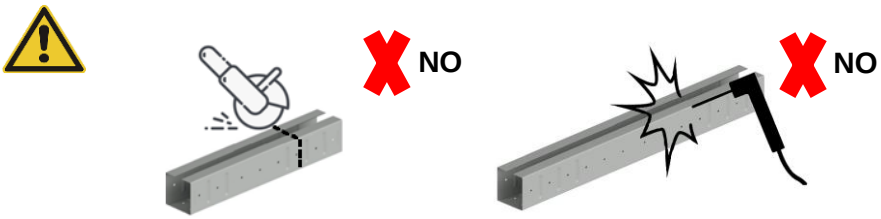
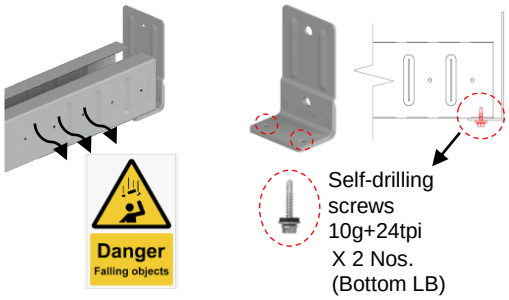


IMPORTANT NOTES:



- NO modification of lintel without prior approval from StiFlex Representative
- For any fire resistance requirements or any opening requirements in the lintel for mechanical/electrical access, etc., please seek advice from your local StiFlex Representative.

Optional:
Additional safety from toppling, you may fasten LC to LB using self-drilling screws.



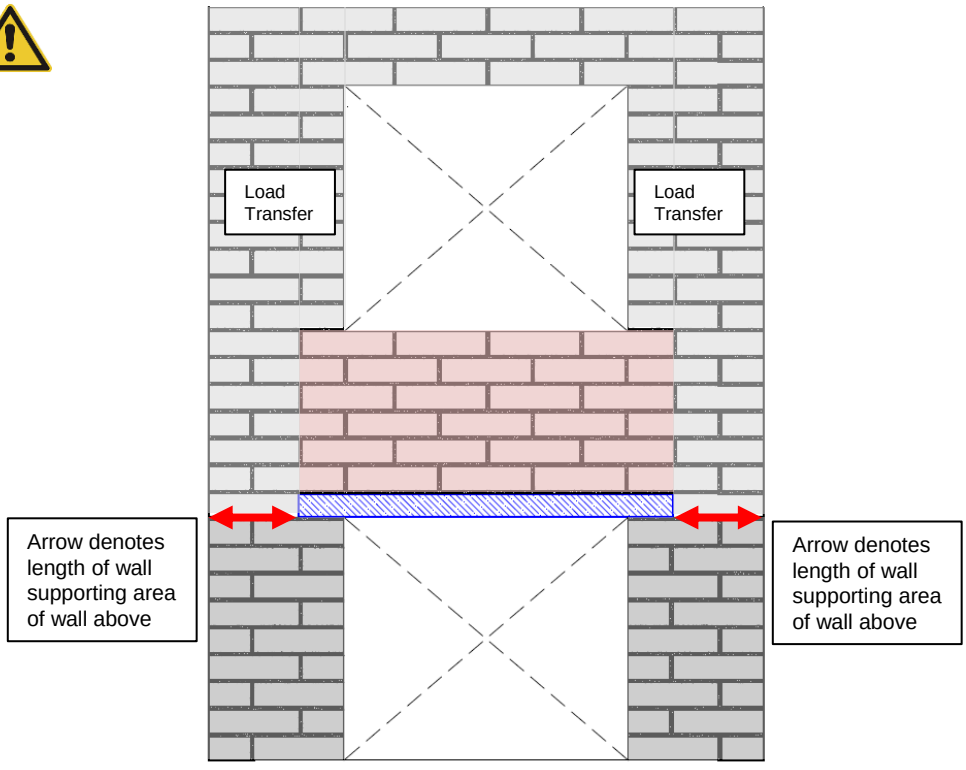
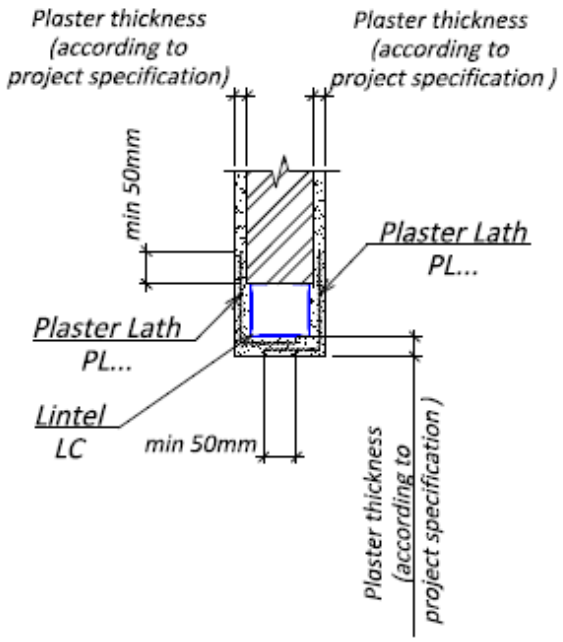
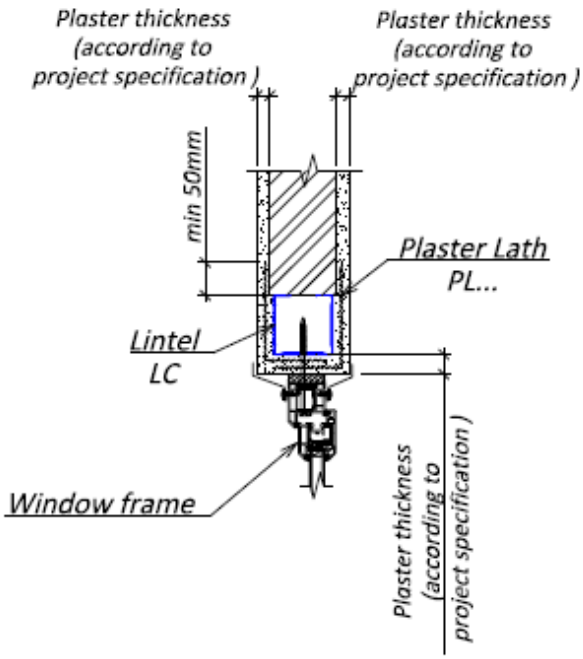
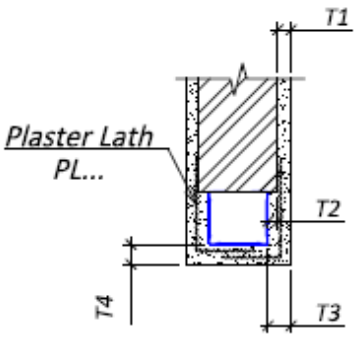


Diagram above shows area of wall supported by the lintel. The project designer is responsible to ensure that the other areas of wall are adequately supported.

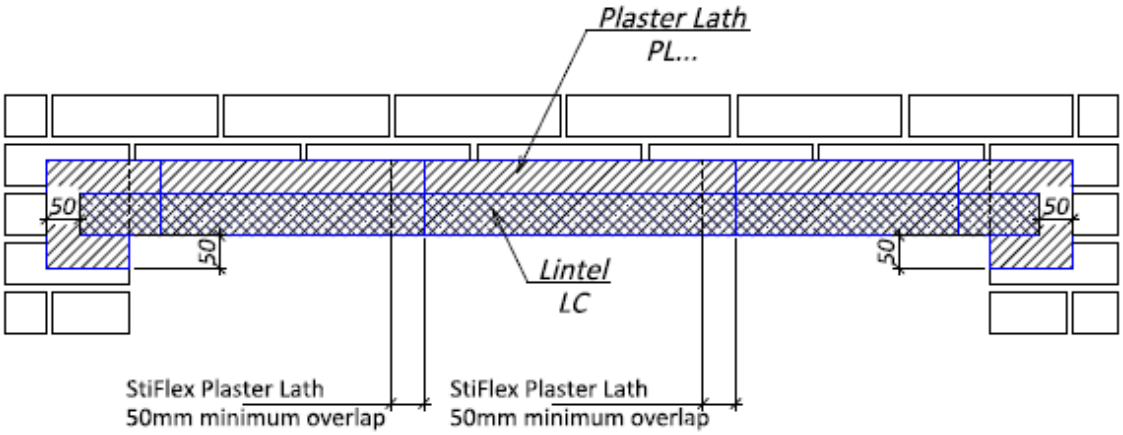
StiFlex Channel Lintel Plaster Details







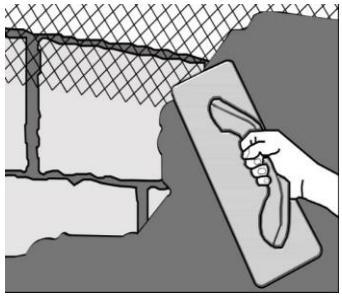
StiFlex Plaster Lath (Product Code)	T1 Maximum (mm)	T2 Maximum (mm)	T3 Maximum (mm)	T4 Maximum (mm)
PL20	20	15	35	35
PL07	7	15	22	30



StiFlex Channel Lintel Plaster Details

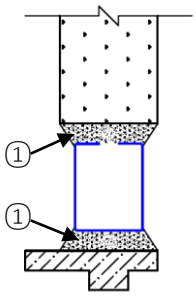
Recommended For Plaster Crack Control

For 3-7mm Skim-coat plaster, use StiFlex Plaster Lath PL07
For 8-20mm Plaster, use StiFlex Plaster Lath PL20



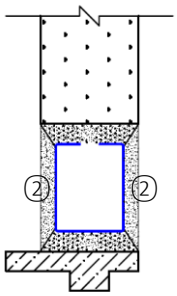
STEPS 1, 2, 3, 4

1



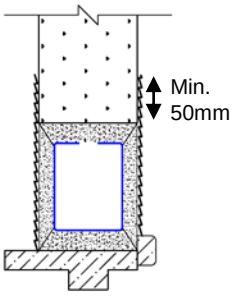
Location ①, on both top and bottom side of StiFlex™ Channel Lintel, to be completely filled with cement mortar during the course of brick, block laying.

2



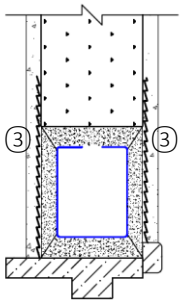
Location ②, on both back and front side of StiFlex™ Channel Lintel, to be plastered flushed with adjoining brick / block wall.

3

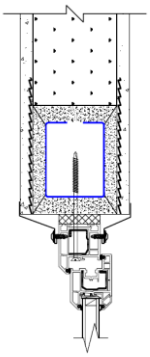


With recommended StiFlex™ Plaster Lath, affix StiFlex™ Plaster Lath centrally across StiFlex™ Channel Lintel with minimum 50mm overlap on wall joint as shown. Repeat on other side.

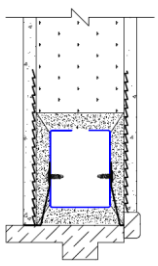
4



Location ③, apply plaster coatings to required thickness according to good practices.



When used with window frame



When used with door frame

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