



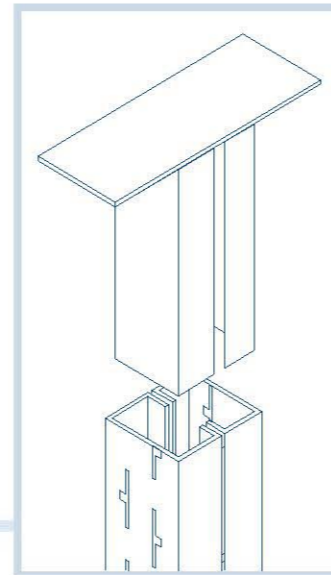
C A T A L O G U E

StiFlex™ Stiffener

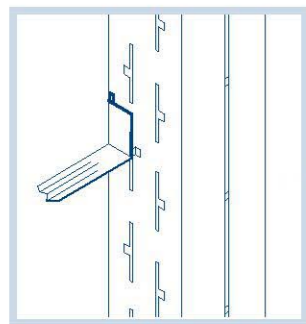
Dyntek presents **StiFlex**, a modular system of steel stiffeners, connectors and wall ties, designed to stiffen and strengthen all wall types, internal and external, whether clay or concrete, bricks or blocks or panels, wet or dry, gypsum or calcium silicate boards.

Manufactured from steel, **StiFlex** directly replaces traditional cast-in-situ reinforced concrete stiffeners. **StiFlex** is quicker and easier to install, providing savings in time and manpower.

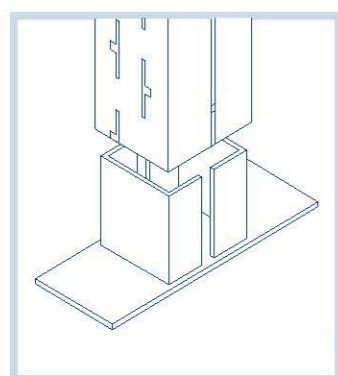
End connector (top) detail (SCR)



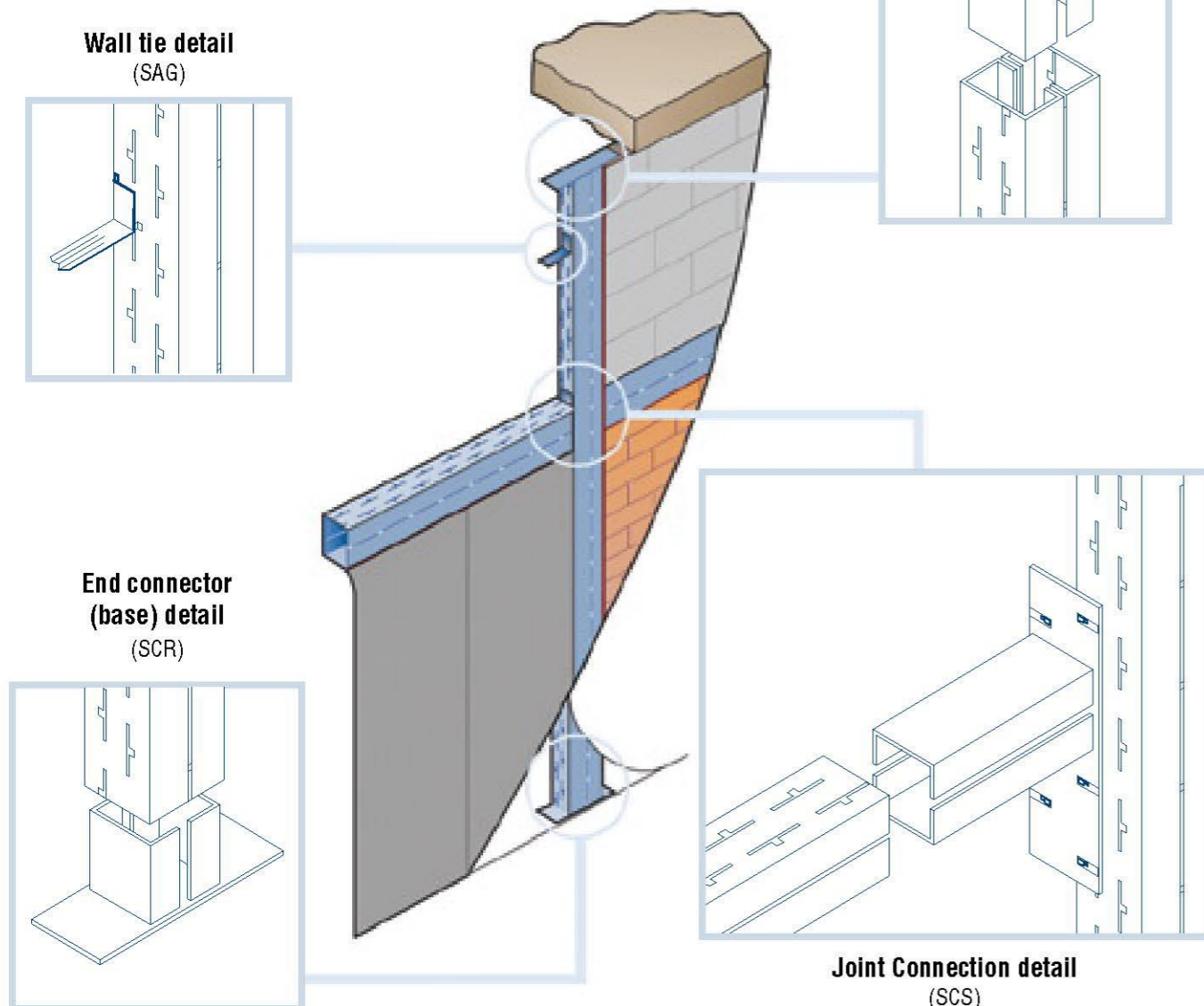
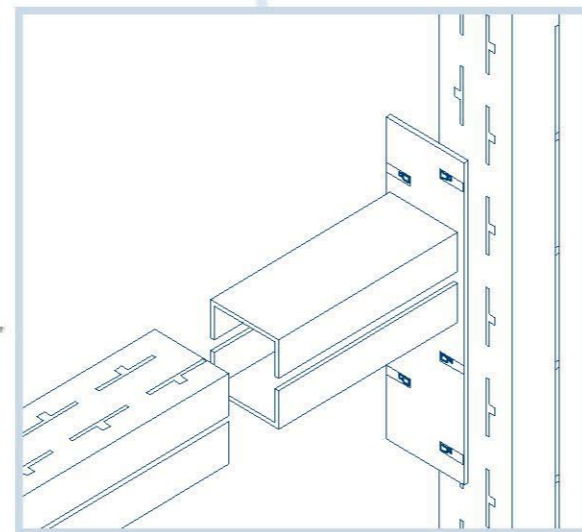
Wall tie detail (SAG)



End connector (base) detail (SCR)



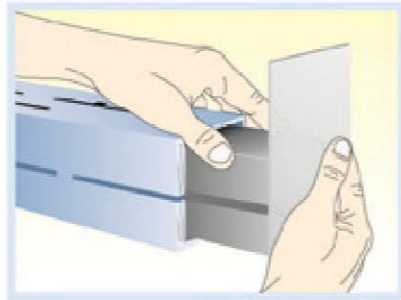
Joint Connection detail (SCS)

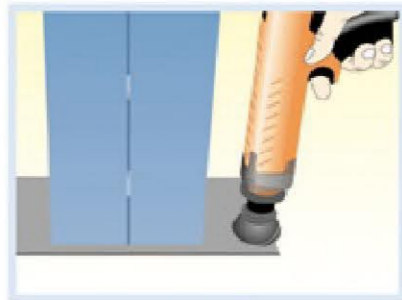



patent pending

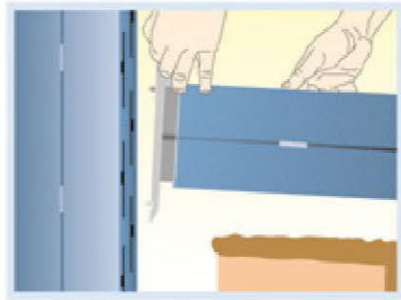
Diagrams - dimensions not to scale
- non-loadbearing horizontal shown

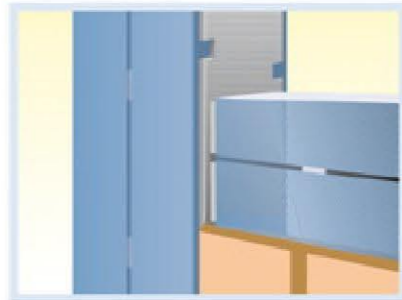
Installation (with non-loadbearing horizontal):

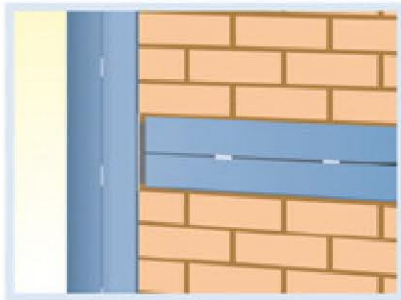
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Insert end connectors (SCR) into both ends of vertical member and then lift upright at intended position of stiffener.
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Fasten 2 powder actuated Ø3.8mm x 25mm nails, on each side of the base connector. Slide top connector sleeve out to beam/slab soffit. Upon verticality check, similarly fasten top connector.
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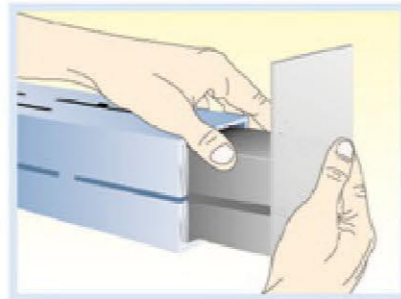
At 400mm (or less) intervals, slot wall tie (SAG) into vertical member, embedding firmly in mortar bed above masonry. Wall ties (SAG) can be positioned indefinitely along member.
- 

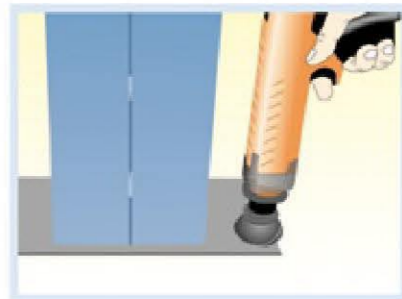
Install horizontal member with pre-inserted connectors (SCS), extending its sleeve/s to slot into [as with wall tie (SAG)] vertical member. Sufficient space to be catered for below and above connection area.
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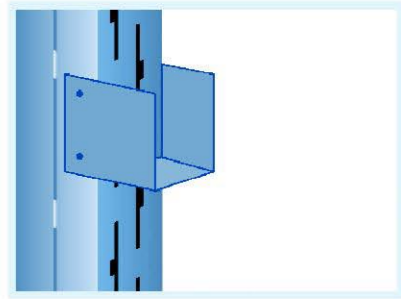
Invert connector/s (SCS shown) of horizontal member to allow indefinite positioning, meeting designed position and ensuring horizontal member rests securely on mortar bed of masonry below.
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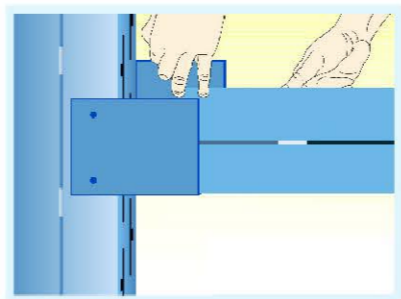
Continue masonry work and where plaster is required on stiffener, apply Dyntek metal lath (ML263) to prevent plaster cracks caused by thermal differential movement between dissimilar surfaces.


Installation (with loadbearing horizontal):

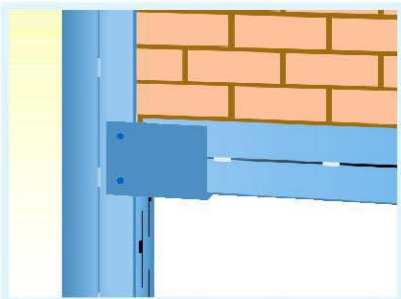
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Insert end connectors (SCR) into both ends of vertical member and then lift upright at intended position of stiffener.
- 

Fasten 2 powder actuated Ø3.8mm x 25mm nails, on each side of the base connector. Slide top connector sleeve out to beam/slab soffit. Upon verticality check, similarly fasten top connector.
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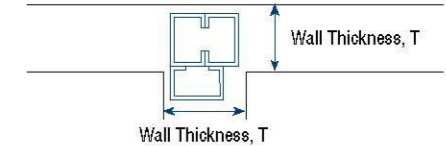
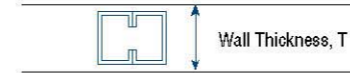
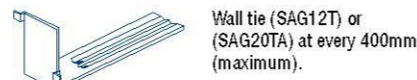
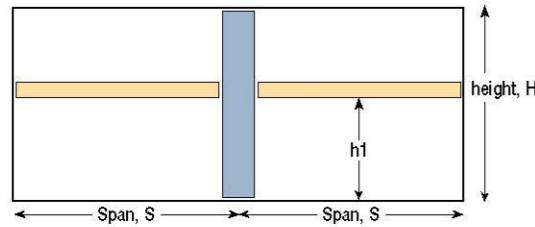
Install loadbearing connectors BBC (to concrete end) or BBS (shown, to vertical **StiFlex**) using bolts at desired (levelled) position.
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Lay horizontal **StiFlex** member on loadbearing connectors (BBS shown) ensuring its levelness.
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At 400mm (or less) intervals, slot wall tie (SAG) into vertical member, embedding firmly in mortar bed above masonry. Wall ties (SAG) can be positioned indefinitely along member.
- 

Continue masonry work and where plaster is required on stiffener, apply Dyntek metal lath (ML263) to prevent plaster cracks caused by thermal differential movement between dissimilar surfaces.

NON-LOADBEARING Stiflex Steel Stiffener Schedule (for *Internal Walls)



Note: Fastening of Stiflex to Reinforced Concrete (RC) surface is by using Powder-actuated nails, 3.8mm diameter x 25mm penetration (Ramset or equivalent).

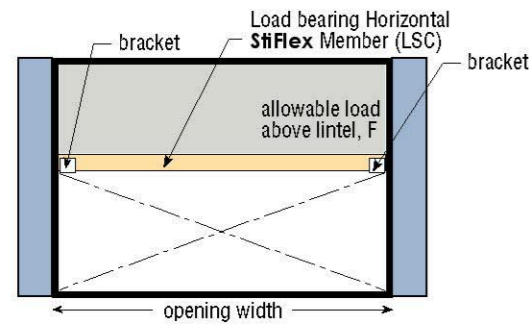
				Vertical Stiflex Stiffeners						Horizontal Stiflex Stiffeners				
Wall Thickness T (mm)	Wall Height H (mm)	Vertical Stiffener Span S (mm)	Horizontal Stiffener Level h1 (mm)	Picture Description	Picture Description	Stiflex Codes	Description	Assigned Codes	Section Size	Stiflex Codes	Description	Assigned Codes	Section Size	
100	up to 3500	3500	-	VERTICAL STIFFENER	JUNCTION STIFFENER	SC100/90 SCR100/90(SL500) SCR100/90(SL180)	Stiflex Member Top Connector Base Connector	S11	75 90	No Horizontal Stiffener No Horizontal Stiffener No Horizontal Stiffener	—	—	—	
	up to 4500	3500	3500	Top (SCR..500)	Top [SCL..A(500)]	SC100/90 SCR100/90(SL500) SCR100/90(SL180) SC100/90(L) SCL100/90A(SL500) SCL100/90B(SL500)	Stiflex Member Top Connector Base Connector Stiflex Member (Junction) Top Connector (L-plate) Base Connector (L-plate)	S11 S11L	75 90 120 90	Side (SCS..500) to Stiflex end (for 100mm wall thickness) Stiflex Member Side Connector (to Stiflex) Side Connector (to Stiflex) Stiflex Member Side Connector (to Stiflex) Side Connector (to Stiflex)	member (SC) S11s	Side (SCS..500) to Stiflex end 75 90		
100 & 150	up to 5400	3500	3500	Member (SC..)	Member SC..(L)	SC125/100 SCR125/100(SL500) SCR125/100(SL180) SC125/100(L) SCL125/100A(SL500) SCL125/100B(SL500)	Stiflex Member Top Connector Base Connector Stiflex Member (Junction) Top Connector (L-plate) Base Connector (L-plate)	S12 S12L	100 100 150 100	Side (SCR..500) to RC end (for 100mm wall thickness) Stiflex Member Side Connector (to RC) Side Connector (to Stiflex) Stiflex Member Side Connector (to RC) Side Connector (to Stiflex)	member (SC) S11rs S12rs	Side (SCS..500) to Stiflex end 75 90 100 100		
	up to 6600	3500	3500			SC125/150A SCR125/150(SL500) SCR125/150(SL180) SC125/150A(L) SCL125/150A(SL500) SCL125/150B(SL500)	Stiflex Member Top Connector Base Connector Stiflex Member (Junction) Top Connector (L-plate) Base Connector (L-plate)	S13 S13L	104 150 154 150		Side (SCR..500) to RC end (for 100mm wall thickness) Stiflex Member Side Connector (to RC) Side Connector (to Stiflex)	member (SC) S11r S12r	Side (SCS..500) to Stiflex end 75 90 100 100	
	up to 8400	3500	3500	SC125b/150d SCR125/150(SL500) SCR125/150(SL180) SC125b/150d(L) SCL125/150A(SL500) SCL125/150B(SL500)	Stiflex Member Top Connector Base Connector Stiflex Member (Junction) Top Connector (L-plate) Base Connector (L-plate)	S14 S14L	108 150 158 150	Side (SCR..500) to RC end (for 100mm wall thickness) Stiflex Member Side Connector (to RC) Side Connector (to RC)	member (SC) S11r S12r	Side (SCS..500) to RC end 75 90 100 100				
	up to 9400	3500	3500	SC125b/150f SCR125/150(SL500) SCR125/150(SL180) SC125b/150f(L) SCL125/150A(SL500) SCL125/150B(SL500)	Stiflex Member Top Connector Base Connector Stiflex Member (Junction) Top Connector (L-plate) Base Connector (L-plate)	S15 S15L	112 150 162 150	Side (SCR..500) to RC end (for 100 and/or 150mm wall thickness) Stiflex Member Side Connector (to RC) Side Connector (to RC)	member (SC) S11r S12r	Side (SCS..500) to RC end 75 90 100 100				
	up to 11000	2000	3500	base (SCR..180)	base [SCL..B(500)]	SC200/150 SCR200/150(SL500) SCR200/150(SL180) SC200/150(L) SCL200/150A(SL500) SCL200/150B(SL500) SC200/150(L2) SCL200/150A(SL500) SCL200/150B(SL500) * 200mm intersect 100mm / 150mm wall	Stiflex Member Top Connector Base Connector Stiflex Member (Junction) Top Connector (L-plate) Base Connector (L-plate) Stiflex Member (Junction) Top Connector (L-plate) Base Connector (L-plate) Stiflex Member (Junction) Top Connector (L-plate) Base Connector (L-plate)	S21 S21L S21L2	175 150 250 175 150 225 150	No Horizontal Stiffener No Horizontal Stiffener No Horizontal Stiffener Side (SCS..500) to Stiflex end Side (SCR..500) to RC end	— — — member (SC) S21s	— — — Side (SCS..500) to Stiflex end Side (SCS..500) to Stiflex end		
	200	up to 3500	4500	-	Member (SC..)	Member SC..(L)	SC200/150C SCR200/150(SL500) SCR200/150(SL180) SC200/150C(L) SCL200/150A(SL500) SCL200/150B(SL500) SC200/150C(L2) SCL200/150A(SL500) SCL200/150B(SL500) * 200mm intersect 100mm / 150mm wall	Stiflex Member Top Connector Base Connector Stiflex Member (Junction) Top Connector (L-plate) Base Connector (L-plate) Stiflex Member (Junction) Top Connector (L-plate) Base Connector (L-plate)	S23 S23L S23L2	181 150 256 175 150 231 100 150	Side (SCR..500) to RC end (for 100 and/or 150mm wall thickness) Stiflex Member Side Connector (to RC) Side Connector (to RC)	member (SC) S21r	Side (SCS..500) to RC end 175 150	
up to 7800		4500	3500	SC200/150 SCR200/150(SL500) SCR200/150(SL180) SC200/150(L) SCL200/150A(SL500) SCL200/150B(SL500)			Stiflex Member Top Connector Base Connector Stiflex Member (Junction) Top Connector (L-plate) Base Connector (L-plate)	S21 S21L	175 150 250 175 150	Side (SCR..500) to RC end (for 100 and/or 150mm wall thickness) Stiflex Member Side Connector (to RC) Side Connector (to Stiflex)	member (SC) S21rs	Side (SCS..500) to Stiflex end Side (SCS..500) to Stiflex end		
up to 9600		4500	3500	up to 11000	3500	3500	base (SCR..180)	base [SCL..B(500)]	SC200/150C SCR200/150(SL500) SCR200/150(SL180) SC200/150C(L) SCL200/150A(SL500) SCL200/150B(SL500) SC200/150C(L2) SCL200/150A(SL500) SCL200/150B(SL500) * 200mm intersect 100mm / 150mm wall	Stiflex Member Top Connector Base Connector Stiflex Member (Junction) Top Connector (L-plate) Base Connector (L-plate) Stiflex Member (Junction) Top Connector (L-plate) Base Connector (L-plate)	S23 S23L S23L2	181 150 256 175 150 231 100 150	Side (SCR..500) to RC end (for 100 and/or 150mm wall thickness) Stiflex Member Side Connector (to RC) Side Connector (to Stiflex)	member (SC) S21r

* For External Wall Schedule, please contact our local representative.

SL: sleeve length (mm)

Diagrams not to scale.

with Horizontal LOADBEARING StiFlex Steel Stiffener Schedule (for *Internal Walls)



NOTE:

- (1) Fastening of BBS bracket to StiFlex Vertical (SV) is by bolting through, with galvanized threaded rod, M12 grade 4.6.
- (2) Fastening of BBC bracket to Reinforced Concrete (RC) surface is by using Hilti HIT-HY150 + HAS-E(5.8)M16 or equivalent. (2nos. bolts for BBC/285 & BBC/295, 3nos. bolts for BBC/445)

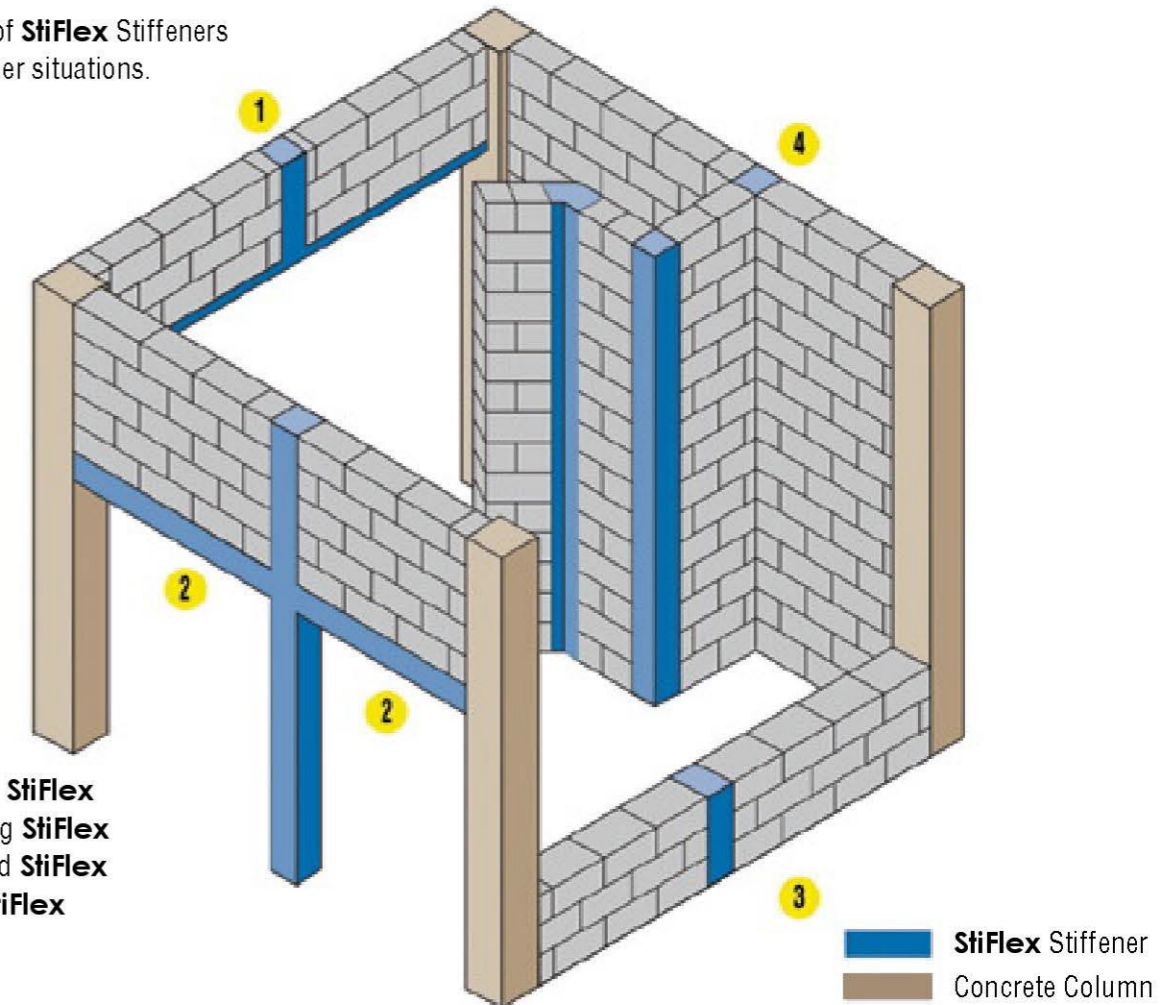
Horizontal StiFlex Stiffeners (Loadbearing)				
Wall Thickness T (mm)	Allowable Load Above Lintel F (tonne)	StiFlex Codes	Description	Assigned Codes
100	0.75	LSC100/90 BBC/285/97/8 (to RC) BBC/285/97/8 (to RC)	side bracket to RC (BBC)	L11r
	0.75	LSC100/90 BBC/285/97/8 (to RC) BBS/150/85/110/3 (to SV)	member (LSC)	L11rs
	0.75	LSC100/90 BBS/150/85/110/3 (to SV) BBS/150/85/110/3 (to SV)	side bracket to SV (BBS)	L11s
100 & 150	1.05 1.65	LSC125/100 LSC125/150A BBC/295/122/8 (to RC) BBC/295/122/8 (to RC)	side bracket to RC (BBC)	L12r L13r
	1.05 1.65	LSC125/100 LSC125/150A BBC/295/122/8 (to RC) BBS/150/110/120/3 (to SV)	member (LSC)	L12rs L13rs
	1.05 1.65	LSC125/100 LSC125/150A BBS/150/110/120/3 (to SV) BBS/150/110/120/3 (to SV)	side bracket to SV (BBS)	L12s L13s
200	2.05 2.50	LSC200/150 LSC200/150x2 BBC/445/196/8 (to RC) BBC/445/196/8 (to RC)	side bracket to RC (BBC)	L21r L23r
	2.05 2.50	LSC200/150 LSC200/150x2 BBC/445/196/8 (to RC) BBS/150/185/150/3 (to SV)	member (LSC)	L21rs L23rs
	2.05 2.50	LSC200/150 LSC200/150x2 BBS/150/185/150/3 (to SV) BBS/150/185/150/3 (to SV)	side bracket to SV (BBS)	L21s L23s

*For External Wall Schedule, please contact our local representative.

Diagrams not to scale.

StiFlex™ Stiffener

Examples of StiFlex Stiffeners used in other situations.



1. Suspended **StiFlex**
2. Loadbearing **StiFlex**
3. Cantilevered **StiFlex**
4. Junction **StiFlex**

Benefits:

Simple Installation -

StiFlex steel stiffener system is lightweight, modular and the average length can easily be installed by 2 workmen in under 10 minutes. Without waste of time in waiting, **StiFlex** stiffeners can be installed immediately and concurrently with almost any wall type whether clay or concrete, bricks/blocks or panels, wet or dry, gypsum or calcium silicate boards.

Enhanced Productivity -

The unique advantage of **StiFlex** is its flexibility in the adoption of standardized profiles and lengths with connectors adjustable up to 250mm enabling the builder to place order in advance and construct according to drawings. Thus, saving time and eliminating labour in taking measurements on site. Within designed limits, **StiFlex** stiffeners can be re-positioned to permit the dodging of M&E services through its walls; **StiFlex** also allows penetration of electrical conduits within itself.

User Friendliness -

With use of **StiFlex** steel stiffener system, the consultant and/or builder can be aided in their defining the position, type and size of **StiFlex** stiffener required for design and construction on their soft drawings, when processed using **StiFlex** in-house software (currently only based on AutoCAD format) programmed to automatically plot **StiFlex** stiffeners.

Certified Conformance -

StiFlex steel stiffener system, being expected to meet or surpass in its performance against conventional reinforced concrete stiffener system that it often replaces, has been tested and certified equal or better in terms of its fire resistance, sound insulation, moisture condensation resistance and thermal conductance resistance. There being no risks of honey-combs and bubbles (usually found in reinforced concrete stiffeners), what you actually use and see of **StiFlex** stiffener, is what you get – according to its label, the model and size, including its powder coated finishing for corrosion protection.

Safe Usage -

Unlike makeshift steel stiffener system (part or fully fabricated on site) factory produced **StiFlex** system dispenses with site cutting and site welding, and upon delivery on site, is ready for installation, enhancing safety on site. Elimination of wastages whether steel, concrete, water or timber, with use of **StiFlex** liberates the builder from any debris and clutter thus promoting safety on site.

Environmental Sustainability -

Based on report of **StiFlex** thermal simulation results on building energy consumption, when compared with conventional concrete stiffeners, external walls of buildings using **StiFlex**, enjoy higher energy savings, especially in countries with extreme cold/hot climates. Moreover, being made from recycled steel, its recyclability promotes ecological friendliness.



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