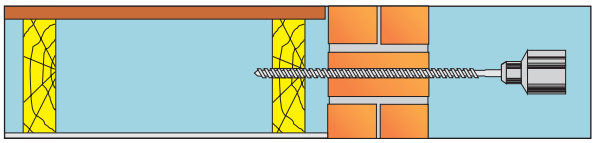
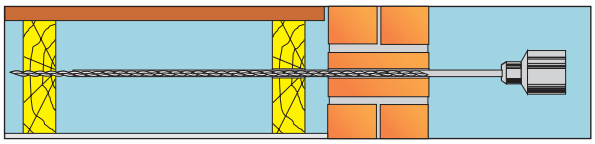
Bow-fix

Bow-Fix is a lateral restraint system, which offers a quick and easy method of restraining bowing walls to timber floor chambers

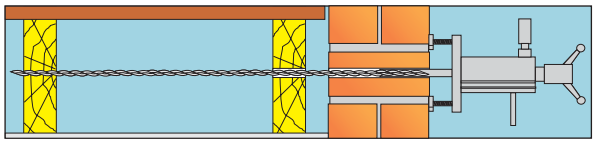
Installation Procedures



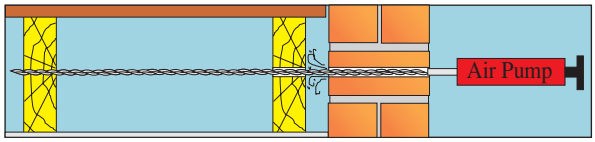
1) Drill clearance hole through wall and first joist.



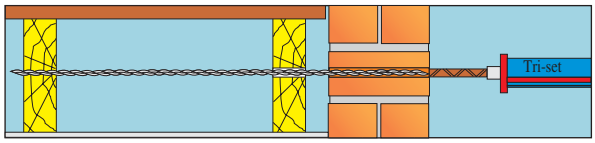
2) Drive Bow-fix tie through second joist with a support tool.



3) Load test Bow-fix to check strength of fixing.

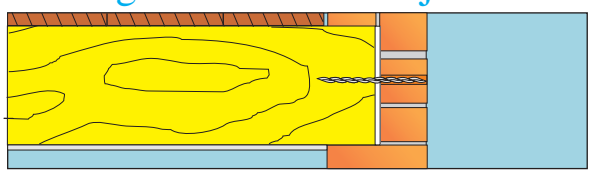


4) Use a air pump to eliminate loose debris and dust.



5) Fill clearance hole with Tri-set resin to bond tie to the wall.

Fixiing Bow-Fix ties to joist ends



Benefits

- Quick installation.
- No lifting of flooring boards.
- Easy load tested.
- No splitting timber floor joists.
- Installed from outside.
- Stress free fixing.

Features

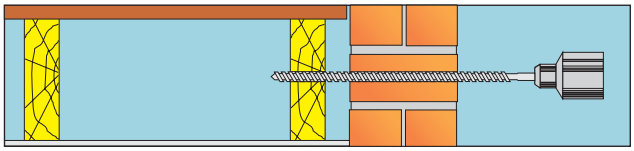
- Easy and problem free installation.
- Austenitic 304 or 316 Stainless Steel.
- Minimal structural and visual disturbance.
- Allows for thermal movement.
- Fixes to joist sides and joist ends.

FIXING TEST DATA		
Fixing Loads	Material	ENBEDMENT
1.8 KN Side Grain	Timber	50mm
1.6 KN End Grain	Timber	75mm
1.6 KN Resin	Soft Clay Brick	70mm

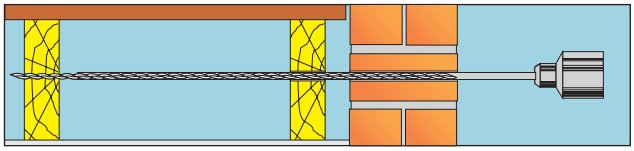
Bow-fix

Bow-Fix is a lateral restraint system, which offers a quick and easy method of restraining bowing walls to timber floor chambers

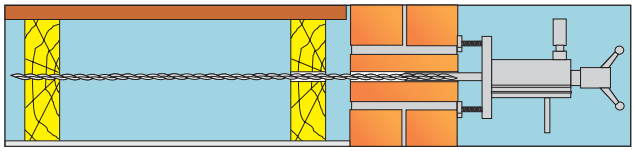
Installation Procedures



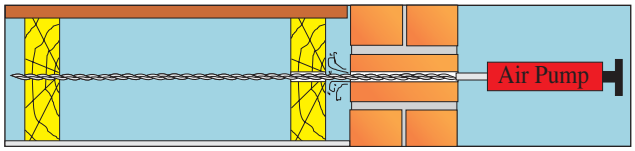
1 After marking position on outer wall, drill a 14mm clearance hole through the wall and first joist.



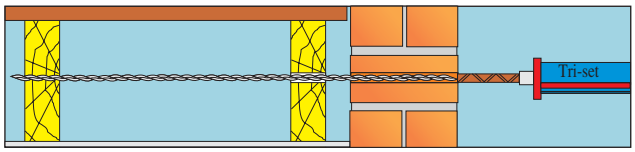
2 Load Bow-Fix Tie into support tool and insert through clearance hole in wall and first joist, then hammer Bow-Fix Tie into second joist to the required depth.



3 The Bow-fix should at this time, be load tested to check strength of fixing to required load.



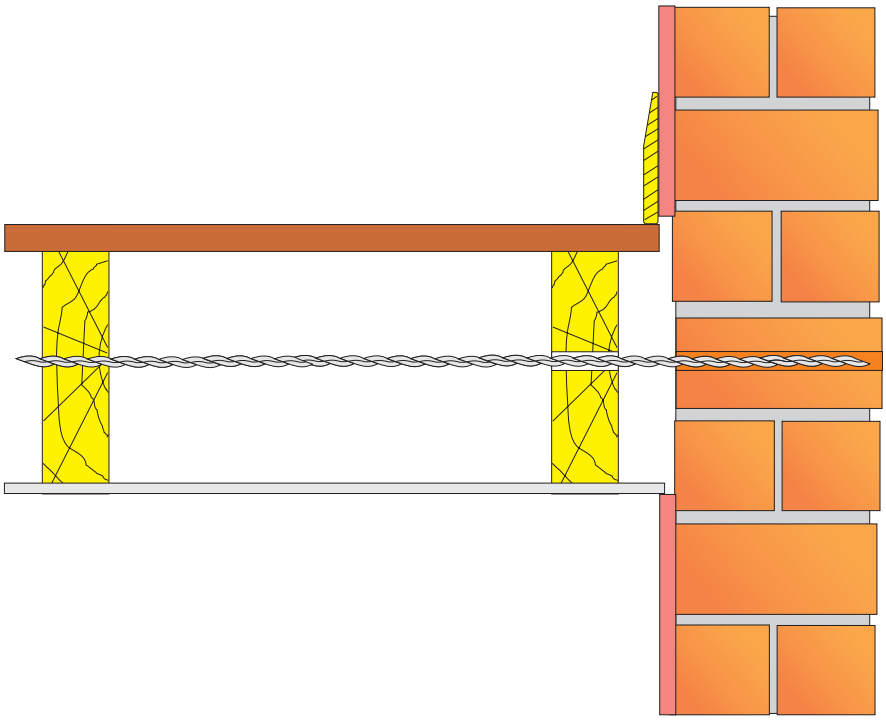
4 Then use an air pump to eliminate loose debris and dust.



5 Using tri-set resin, inject into the outer wall until the hole is filled, the outer wall face can be made good

Note: before commencing work, a qualified surveyor\engineer should calculate the required number and spacings of Bow-Fix to be used.
The contractor should use a endoscope to check position of joist and any hidden services.

Fixing Bow-fix into sides of joists



(1) Locate positions of joists and mark on the external side of wall.

(2) Drill 12mm clearance holes through masonry and first joist in line with centre of joists.

(3) Clear hole of any dust or loose debris using a air-pump.

(4) Load bow-fix into support tool and insert through clearance hole, then hammer bow-fix into second joist to the required depth .

(5) Inject Tri-resin or Cem-spand cementitious grout into hole and completely fill.

(6) Make good surface of holes using colour matching dyed mortar.

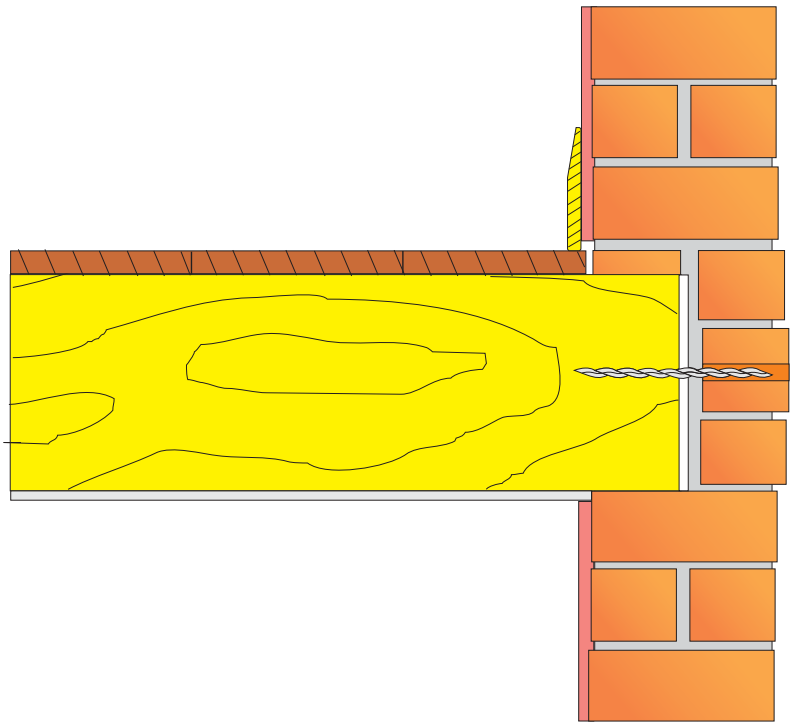
Installation Notes: Unless specified otherwise the following criteria are to be used.

a) Minimum penetration depth into timber to be 50mm.

b) Bow-fix ties to be installed at 600mm horizontal centres.

BF-01

Fixing Bow-fix into joist ends



(1) Locate positions of joist ends and mark on the external side of wall.

(2) Drill 12mm clearance holes through masonry in line of and centre of the joist ends.

(3) Clear hole of any dust or loose debris using a air-pump.

(4) Load bow-fix into support tool and insert through clearance hole, then hammer bow-fix into joist end to the required depth .

(5) Inject Tri-resin or Cem-spand cementitious grout into hole and completely fill.

(6) Make good surface of holes using colour matching dyed mortar.

Installation Notes: Unless specified otherwise the following criteria are to be used.

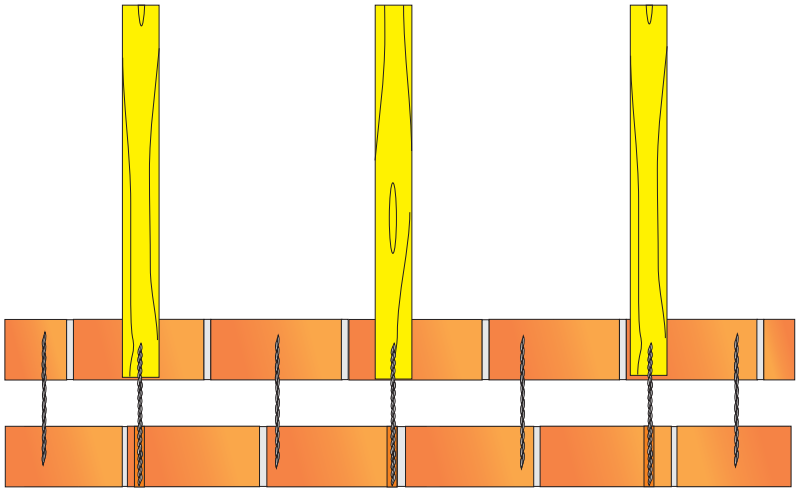
a) Minimum penetration depth into end grain of timber to be 50mm.

b) Install Bow-fix ties into every joist end in area concerned.

Fixing Bow-Fix to cavity walls

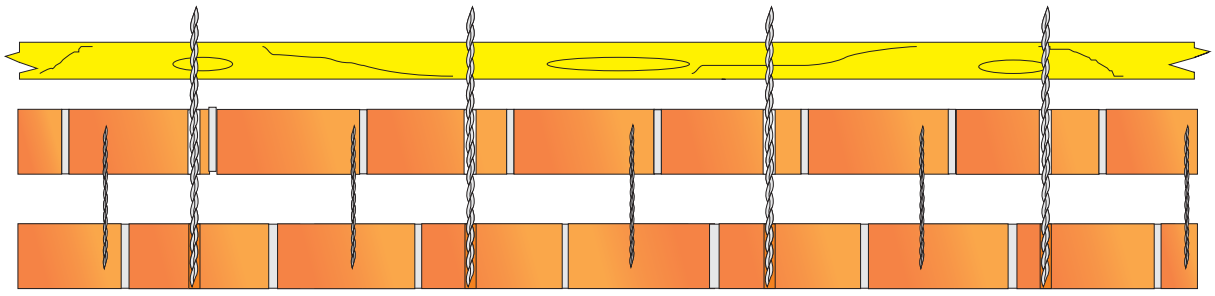
BF-06

End of joist method



Use Bow-Fix detail BF-01 to tie joist ends which run perpendicular to walls and install remedial wall ties between joists

Side of joist method

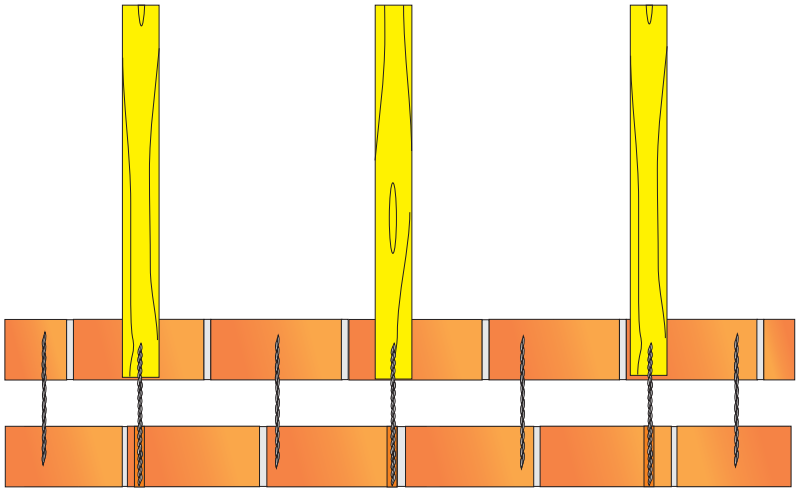


Use Bow-Fix detail BF-02 to tie joists which run parallel to walls install remedial wall tie between Bow-fix ties.

Fixing Bow-Fix to cavity walls

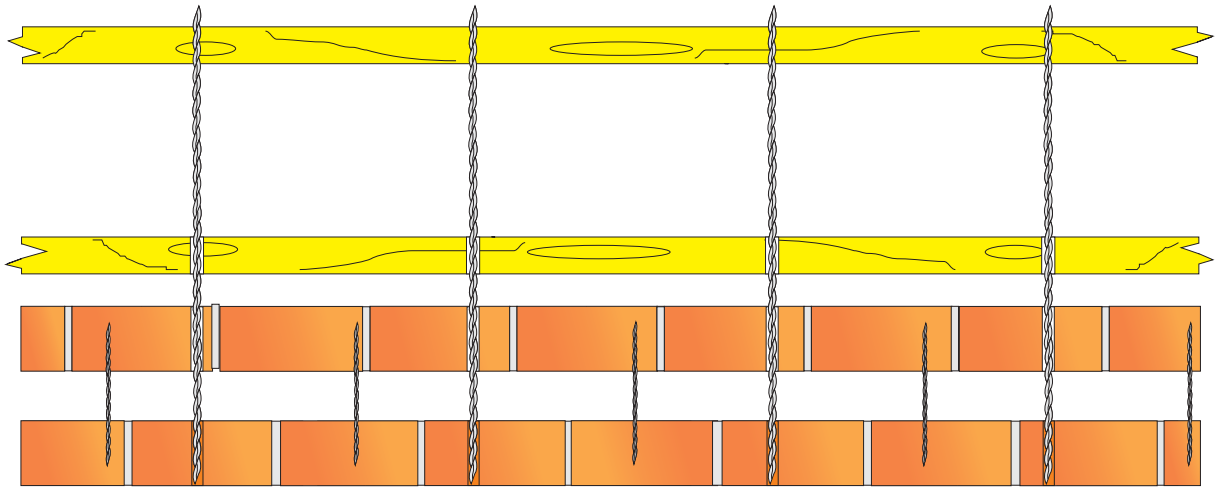
BF-05

End of joist method



Use Bow-Fix detail BF-01 to tie joist ends which run perpendicular to walls and install remedial wall ties between joists

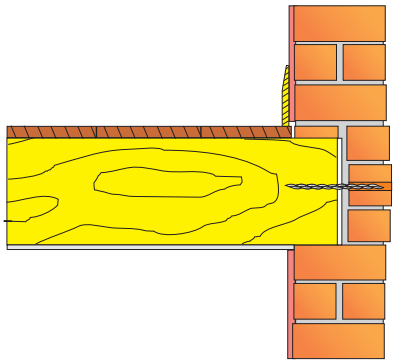
Side of joist method



Use Bow-Fix detail BF-02 to tie joists which run parallel to walls install remedial wall tie between Bow-fix ties.

BF-01

Fixing Bow-fix into joist ends



(1) Locate positions of joist ends and mark on the external side of wall.

(2) Drill 12mm clearance holes through masonry in line of and centre of the joist ends.

(3) Clear hole of any dust or loose debris using a air-pump.

(4) Load bow-fix into support tool and insert through clearance hole, then hammer bow-fix into joist end to the required depth .

(5) Inject Tri-resin or Cem-spand cementitious grout into hole and completely fill.

(6) Make good surface of holes using colour matching dyed mortar.

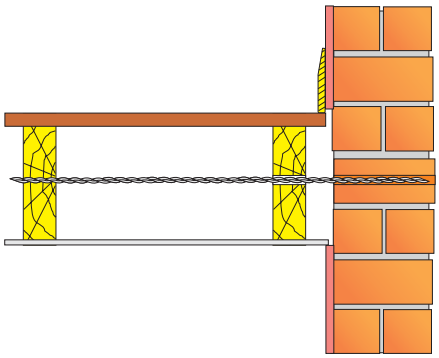
Installation Notes: Unless specified otherwise the following criteria are to be used.

a) Minimum penetration depth into end grain of timber to be 50mm.

b) Install Bow-fix ties into every joist end in area concerned.

BF-02

Fixing Bow-fix into into sides joists



(1) Locate positions of joists and mark on the external side of wall.

(2) Drill 12mm clearance holes through masonry and first joist in line with centre of joists.

(3) Clear hole of any dust or loose debris using a air-pump.

(4) Load bow-fix into support tool and insert through clearance hole, then hammer bow-fix into second joist to the required depth .

(5) Inject Tri-resin or Cem-spand cementitious grout into hole and completely fill.

(6) Make good surface of holes using colour matching dyed mortar.

Installation Notes: Unless specified otherwise the following criteria are to be used.

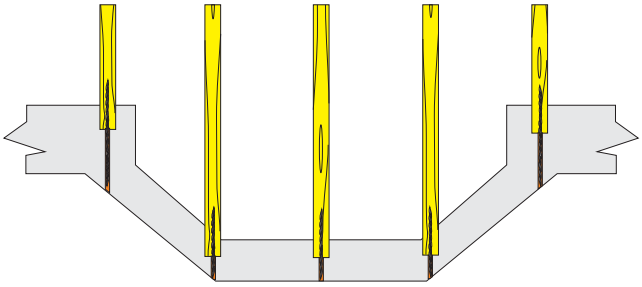
a) Minimum penetration depth into timber to be 50mm.

b) Bow-fix ties to be installed at 600mm horizontal centres.

BF-03

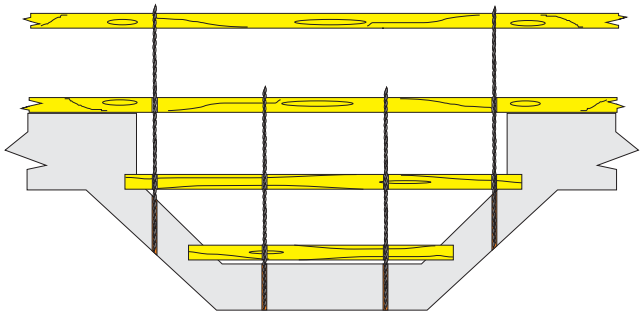
Repairing Bay Windows Bow-Fix

End of joist method



Use Bow-Fix detail BF-01 to tie joist ends which run perpendicular to front elevation of Bays

Side of joist method

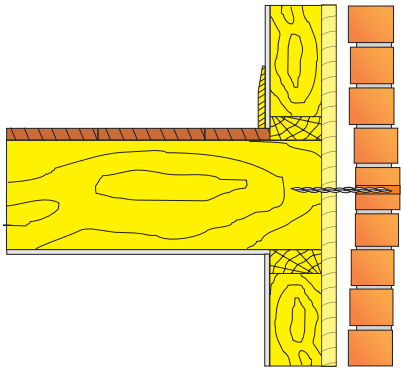


Use Bow-Fix detail BF-02 to tie joists which run parallel to front elevation of Bays

NOTE: Further additional repair methods may well be required depending on the condition of the bay masonry. See repair methods TB14,to TB16 and CF12.

BF-04

Fixing Bow-fix into joist ends Timber frames



(1) Locate positions of joist ends and mark on the external side of wall.

(2) Drill 12mm clearance holes through masonry in line with the centre of the joist ends.

(3) Clear hole of any dust or loose debris using a air-pump.

(4) Load bow-fix into support tool and insert through clearance hole, then hammer bow-fix into joist end to the required depth .

(5) Inject Tri-resin or Cem-spand cementitious grout into hole and completely fill.

(6) Make good surface of holes using colour matching dyed mortar.

Installation Notes: Unless specified otherwise the following criteria are to be used.

a) Minimum penetration depth into end grain of timber to be 50mm.

b) Install Bow-fix ties into every joist end in area concerned.