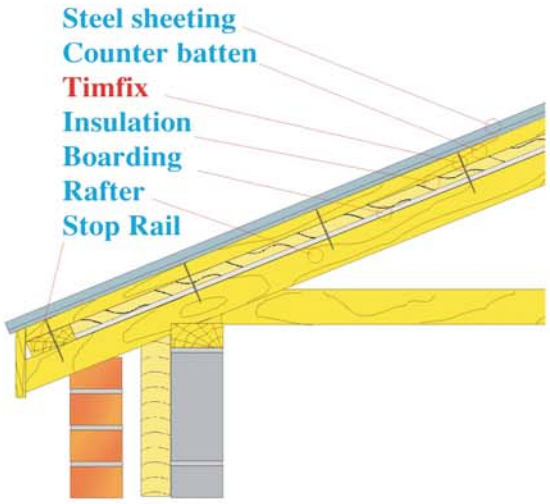
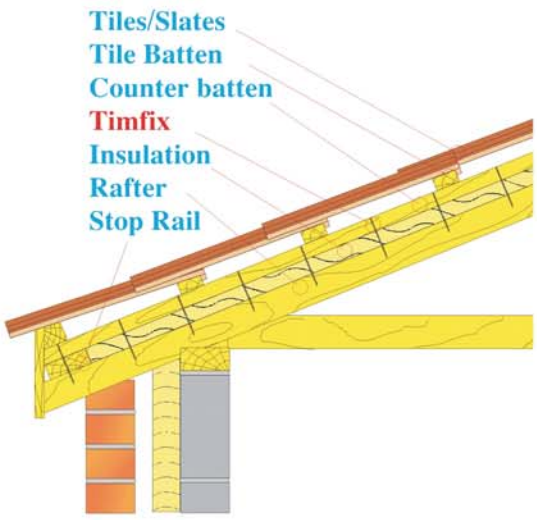
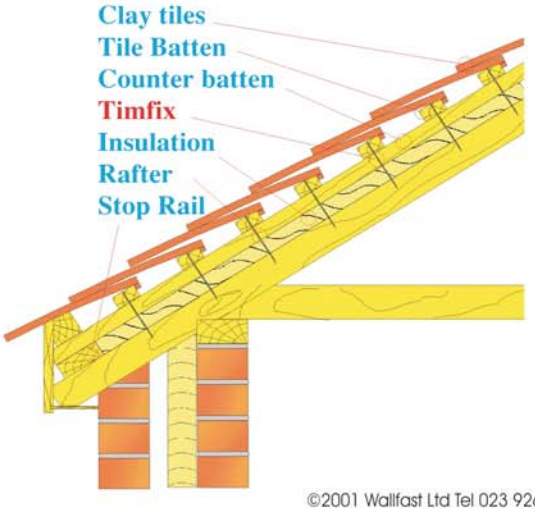
Tim-fix

Structural fixings for warm roof counter batten systems and vertical tile hanging systems. Timfix have special helical features which protect insulation sarking boards from roof weight compression loads side loads and wind suction tension loads, while its small constant core diameter allows it to be used in thin counter batten timbers while still conforming to CP112 1972, Unlike standard wire nails







Timfix has been approved for use, by leading insulation sarking manufacture's like Celotex, Kingspan, British Gypsum, Ecotherm & Rockwool.

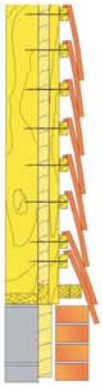
Benefits

- Quick installation, installed like a nail grips like a screw.
- Protect insulation from roof weights.
- High tensile strength to resist wind loads.
- Available in lengths from 75mm to 200mm in 5mm increments.
- Allows for close to edge fixing without causing thin timbers to split.
- Technical recommendation in brochure WF 498.

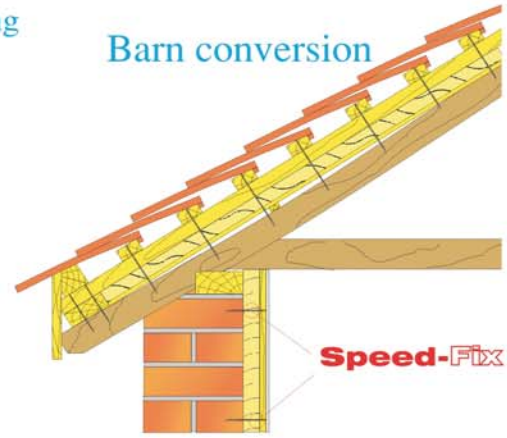
Features

- Austenitic 304 or 316 Stainless Steel.
- Headless fixings which allow tile battens to be laid easily over the top.
- High resistance to bending moments, due to three equally spaced fins rotating around the same core.

Vertical Tiling



Barn conversion



Introduction

Pitched warm roof design is rapidly establishing itself because of the added benefits of keeping main roof voids warm with no thermal bridging thus keeping roofing timbers dry. No ventilation is needed or insulation to water services. Main roof void areas can be used for a wider range of activities. Timfix is used to fix counter battens down through insulation sarking then into new or existing rafters prior to felt and batten roofing systems or sheet roofing systems.

Improvements in Performance Requirement.

Timfix has been specially designed, taking performance requirements into consideration and using high tech cost saving manufacturing techniques. Having three fins equally spaced around a central core gives the best structural performance against bending moment forces. This improvement can be seen when installing Timfix and in many cases a support fixing tool is not needed. With the added benefits of being manufactured from special treated 18-8 anstenitic steel giving you a high tensile strength and corrosion free stainless steel fixing, the cross sectional area is decreased giving good sound-proof quality, and having a small constant core diameter enables Timfix to be used with timber widths under 30mm and still conform to:CP112:1972 which is not possible with standard nails.

The high tensile strength increases the sheer loads to resist sliding loads applied by weight of roof covering materials. Tensile loads applied to Timfix by wind suction forces. Timfix has been tested by the University of Portsmouth Material Department in accordance with British Standard Draft and Development DD140 and British Research Establishment performance specification for wall ties by Dr. R. C. DeVekey. A copy of test results is available on request. Compression loads by wind forces and roof covering weights including warm roof materials are taken by the rafters i.e. size, centres and spans of rafters should be checked by a qualified or experienced person.

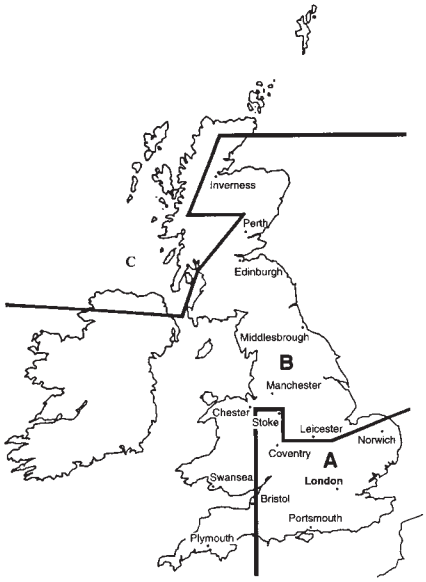
Fixing Requirements.

The length of Timfix required for a specific job is a simple calculation by adding the counter batten thickness to the insulation thickness then allowing an additional 35mm for softwood rafters or 25mm for hardwood rafters then round up to the nearest 5mm.

Fixing Density to Resist Wind Loads

See Figure 1. Showing basic wind speeds in Great Britain as shown in CP3 Chapter V Part 2 1972 and amended in 1986.

Figure 1



Wind Zone A = 44 metres per second
Wind Zone B = 44 to 52 metres per second
Wind Zone C = Higher than 52 metres per second

Topography factors (slopes of the land)

There are three land forms shown in Table 1 which have an additional effect on wind suction loads within 1km of site.

Level	to	1:20
1:20	to	1:12.5
1:12.5	to	No Limits

Table 1 will show the number of Timfix per metre squared required to resist wind suction loads in different locations in Great Britain and taking topography factors and batten thickness into consideration.

Table 2 will show the number of Timfix per metre squared to resist sliding loads produced by different roof covering weights and taking roof pitch angle and different insulation thickness into consideration.

Timfix Density for a Specific Job

Table 3 - After selecting a Timfix/M2 fixing density from Table 1 and 2, which ever is highest, use the column showing counterbatten/rafter centres then select a figure closest or slightly higher for the row to show fixing centres in mm. The use of stop batten is strongly recommended at eaves level. Stop batten must be the same thickness as the insulation used. If roof spans are longer than 8 metres an additional stop batten should be introduced at the middle of the span.

TABLE 1 - Minimum Timfix / M2 to Resist Wind Suction Loads

See Fig. A Wind Zone		A			B			C		
Slope of Land		1:20	1:12.5	N/L	1:20	1:12.5	N/L	1:20	1:12.5	N/L
Suction Load KN/M2		2.6	3.6	4.7	3.6	4.3	6.6	4.2	5.0	7.6
Counter Batten Thickness	25mm	4.2	6.0	7.8	6.0	7.1	11.0	6.7	8.2	12.7
	37mm	3.0	3.5	5.2	4.0	4.7	7.2	4.5	5.5	8.5
	50mm	2.0	2.5	3.8	3.0	3.6	5.5	3.3	4.1	6.2

Insulation Thickness Key

TABLE 2 - Minimum Timfix Required M2 to Resist Slide Loads

0 - 36mm = A **37mm - 50mm = B** **51mm - 75mm = C**

For Insulation Thickness of 76mm - 100mm Double Figures in Column C

Laid Roof Covering Weight per KG/M2		10			20			30			40			50			60			70			80			90			100		
Insulation Thickness		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Roof Pitch In Degrees	20 Degrees	1.6	3.0	5.5	1.8	3.5	6.2	2.0	3.5	6.8	2.1	4.0	7.5	2.3	4.5	8.2	2.5	4.5	8.8												
	30 Degrees	2.1	4.0	7.5	2.4	4.5	8.5	2.7	5.0	9.4	3.0	5.5	10.4	3.3	6.0	11.4	3.5	6.6	12.4	3.8	7.0		4.1	8.0		4.4	8.5		4.7	9.0	
	40 Degrees	2.0	4.0	7.0	2.4	4.5	8.3	2.7	5.0	9.5	3.1	6.0	10.8	3.4	6.5	12.1	3.8	7.0	13.4	4.2	8.0		4.5	8.5		4.9	9.5		5.2	10.0	
	50 Degrees	1.6	3.0	5.6	2.0	4.0	7.1	2.5	5.0	8.6	2.9	5.5	10.1	3.3	6.5	11.6	3.7	7.0	13.1	4.2	8.0		4.6	9.0		5.0	9.5		5.5	10.5	
	60 Degrees	1.1	2.0	3.9	1.6	3.0	5.6	2.1	4.0	7.3	2.6	5.0	9.0	3.0	5.5	10.7	3.5	6.5	12.4	4.0	7.5		4.5	8.5		5.0	9.5		5.5	10.5	
	70 Degrees	0.5	1.0	1.8	1.1	2.0	3.7	1.6	3.0	5.5	2.1	4.0	7.4	2.6	5.0	9.2	3.2	6.0	11.1	3.7	7.0	12.9	4.2	8.0		4.7	9.5		5.3	10.5	
	80 Degrees	0.6	1.0	1.9	1.1	2.0	3.9	1.7	3.0	5.8	2.2	4.0	7.7	2.8	5.0	9.7	3.3	6.0	11.6	3.9	7.5	13.5	4.4	8.5		5.0	9.5		5.5	10.5	
	90 Degrees	0.6	1.0	2.0	1.1	2.0	3.9	1.7	3.0	5.9	2.2	4.5	7.8	2.8	5.0	9.8	3.4	6.5	11.8	3.9	7.5	13.7	4.5	8.5		5.0	9.5		5.6	10.5	

N. B. Fixing Density in Tables 1 & 2 are for buildings up to a height of 15 mtrs.
For applications above 15mtrs to 200 mtrs fixing density must be multiplied by a factor of 1.52

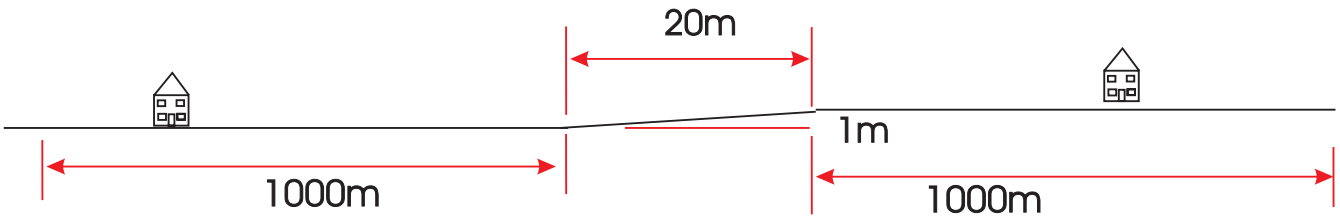
TABLE 3 - Density of Timfix per M2 for Different Fixing Centres

Fixing Centre for Counterbattens or Tile Battern Guage - mm	Counterbatten / Rafter Centres - mm			
	400	450	600	1200
100	25.0	22.0	16.5	8.0
125	20.0	17.5	13.0	6.5
150	16.5	14.5	11.0	5.5
175	14.0	12.5	9.5	4.5
200	12.5	11.0	8.0	4.0
225	11.0	9.5	7.0	3.5
250	10.0	8.5	6.5	3.0
275	9.0	8.0	6.0	3.0
300	8.0	7.0	5.5	2.5
325	7.5	6.5	5.0	2.5
350	7.0	6.0	4.5	2.0
375	6.5	5.5	4.5	2.0
400	6.0	5.5	4.0	2.0

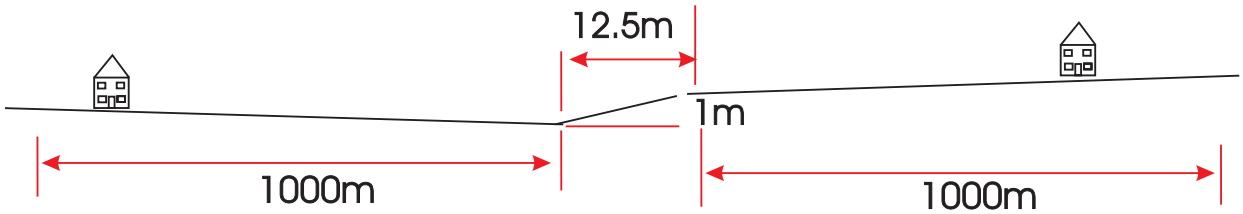
S_1 Topography Factor's

Topography factor's allow for the influence of landforms like land slopes, hills, and cliffs, which will have an increased, affected on wind speeds expected on any site within a 1000 metres radius.

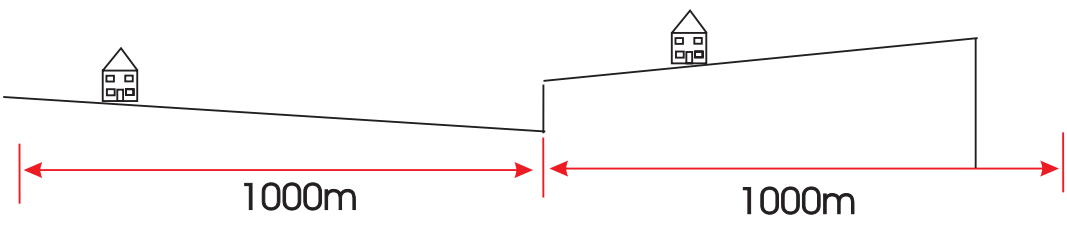
Level to 1:20



1:20 to 12.5



12.5 to No Limit



Tim-fix Specification Request form

1, Wind Zone Selection
A=44m/s ☐ B=52m/s ☐ C=56m/s ☐

2, Topography Selection S1
Level to 1:20 ☐ 1:20 to 1:12.5 ☐ 1:5 to No limit ☐

3, Counter Batten Thickness : ☐ mm

4, Insulation Thickness ☐ **mm**

5, Any other material being laid on top of the rafters : Type of material ☐ Thickness ☐ mm

6, Rafter Hardwood ☐ Soft wood ☐ Rafter Centres ☐ mm

7, Length of longest rafter : ☐ metres (Lay additional stop rail at mid span if over 8m)

8, Total Roof Area ☐ M2

9, Pitch of roof : ☐ degrees

10, Weight of roof covering in KG per metre square : ☐ KG/M2

11, Height of roof from ground level : ☐ Under 15 MTRS ☐ Over 15 MTRS

Your Fax Number ☐ Company & contact name ☐

Return Information

Length of Tim-fix ☐ mm

Quantity ☐

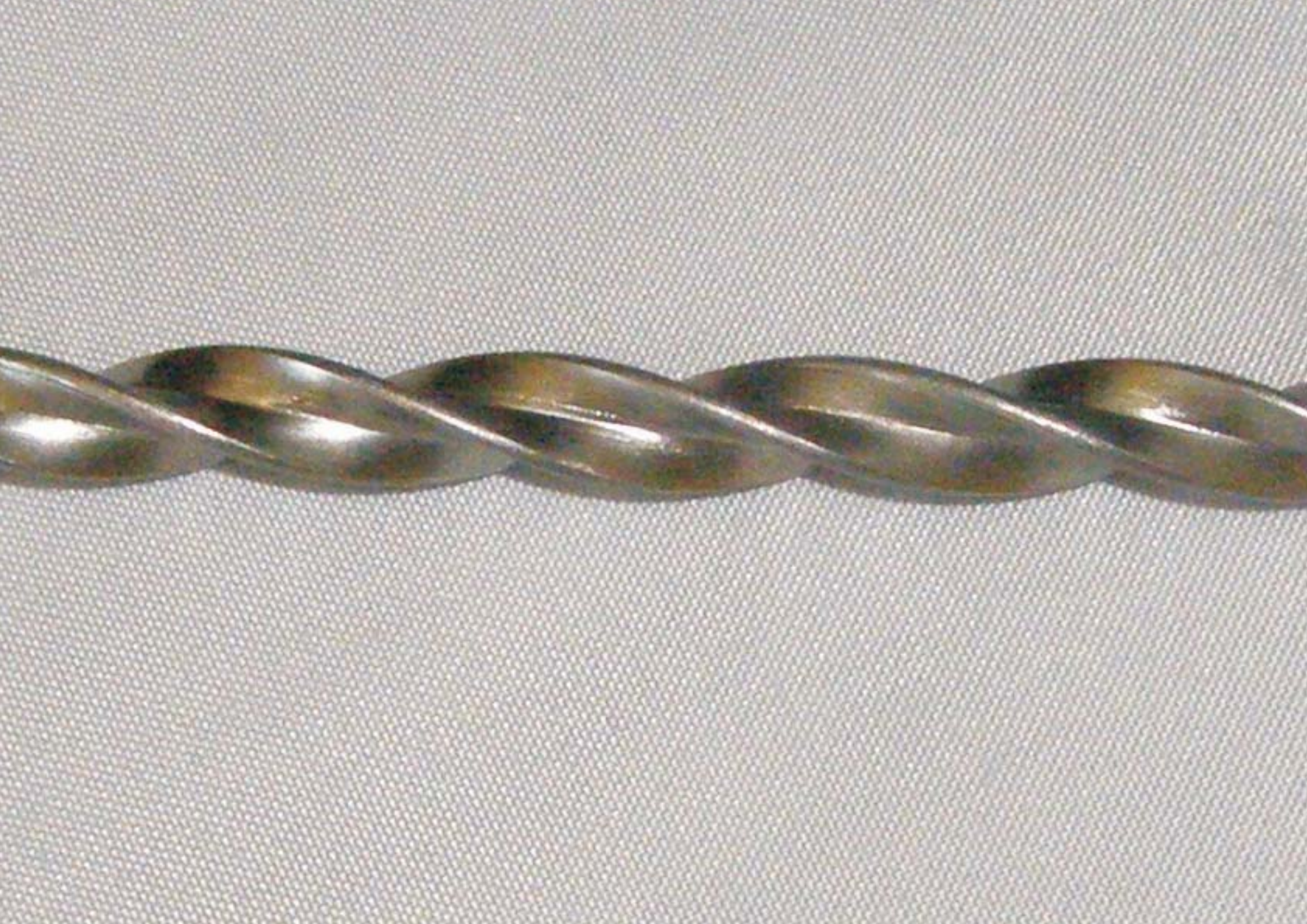
Fixing centres ☐ Fix every mm up rafter

Fit stop rail at

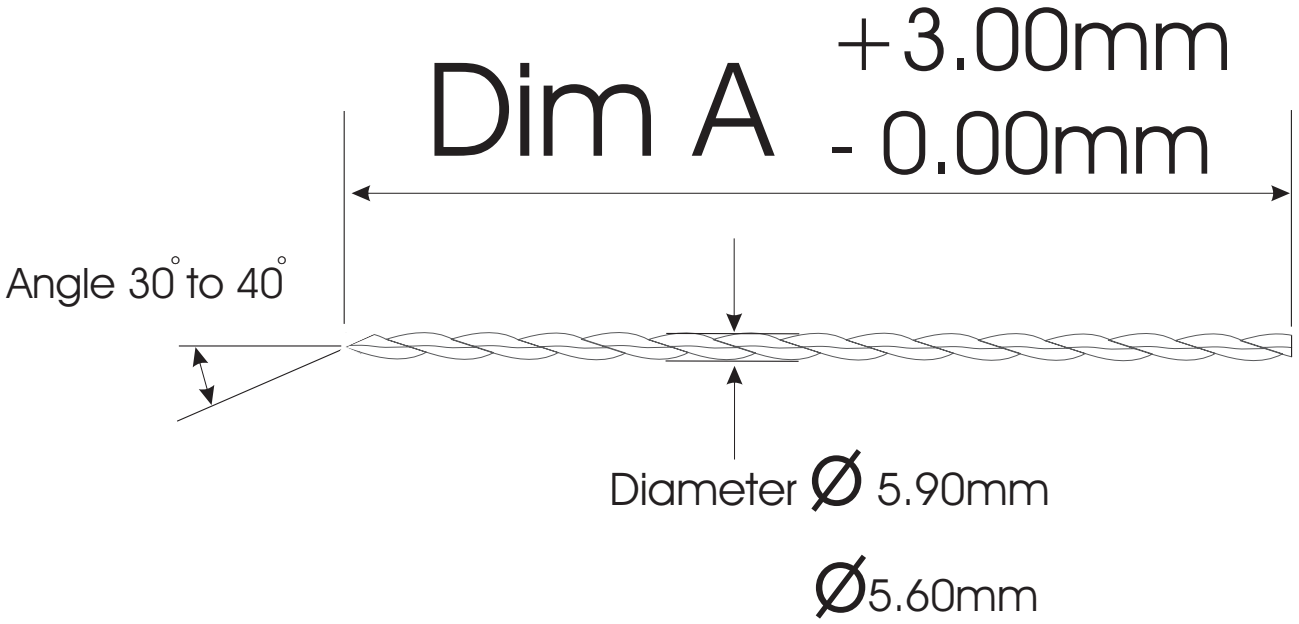
Eaves Level Only ☐ Eaves Level and at mid span ☐

These measures are to assist the fixings in resisting sliding load. You must install a securely fixed structural stop rail along the eaves of the roof and use metal straps to fix the counter battens together over the ridge of the roof. Strap the counter battens together if more than one piece is needed along a rafter. The stop batten/rail should be equal to the full height of the counter battens.

FAX BACK ON 023 9229 8445 OR EMAIL tech@wallfast.co.uk



Part N0	Dim A
TFN6/95/4	95mm
TFN6/100/4	100mm
TFN6/105/4	105mm
TFN6/110/4	110mm
TFN6/115/4	115mm
TFN6/120/4	120mm
TFN6/125/4	125mm
TFN6/130/4	130mm
TFN6/135/4	135mm
TFN6/140/4	140mm
TFN6/145/4	145mm
TFN6/150/4	150mm
TFN6/155/4	155mm
TFN6/165/4	165mm
TFN6/170/4	170mm
TFN6/175/4	175mm
TFN6/180/4	180mm
TFN6/185/4	185mm
TFN6/190/4	190mm
TFN6/195/4	195mm
TFN6/200/4	200mm



MATERIAL: 304 Stainless Steel FINISH: Bright annealed	TOLERANCES- UNLESS STATED UNIT ± 0.25 .0 ± 0.13 .00 ± 0.08 .000 ± 0.08 DIMENSIONS IN MILLIMETRE'S	NOTES:	SCALE: NTS DRAWN BY: SM DATE: 30-10-03	 TITLE: Tim-fix Nails 6mm dia	DRAWING NUMBER: TFN6/000/4