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PLAS-PRO

Ultra-Low Maintenance Sub Frame Solutions

What is Plas-pro?

Plas-Pro is made from 100% recycled plastic. Using selected graded materials and cleverly engineered processes, Plas-Pro not only brings the key environmental benefits, but the assurance of superior quality performance.

Being impervious to water ingress Plas-Pro will not rot, swell or split like wood, making it particularly suitable around water and damp environments such as jettys, fishing platforms, roof terraces and boardwalks - ensuring a maintenance-free solution.

Why Plas-Pro?

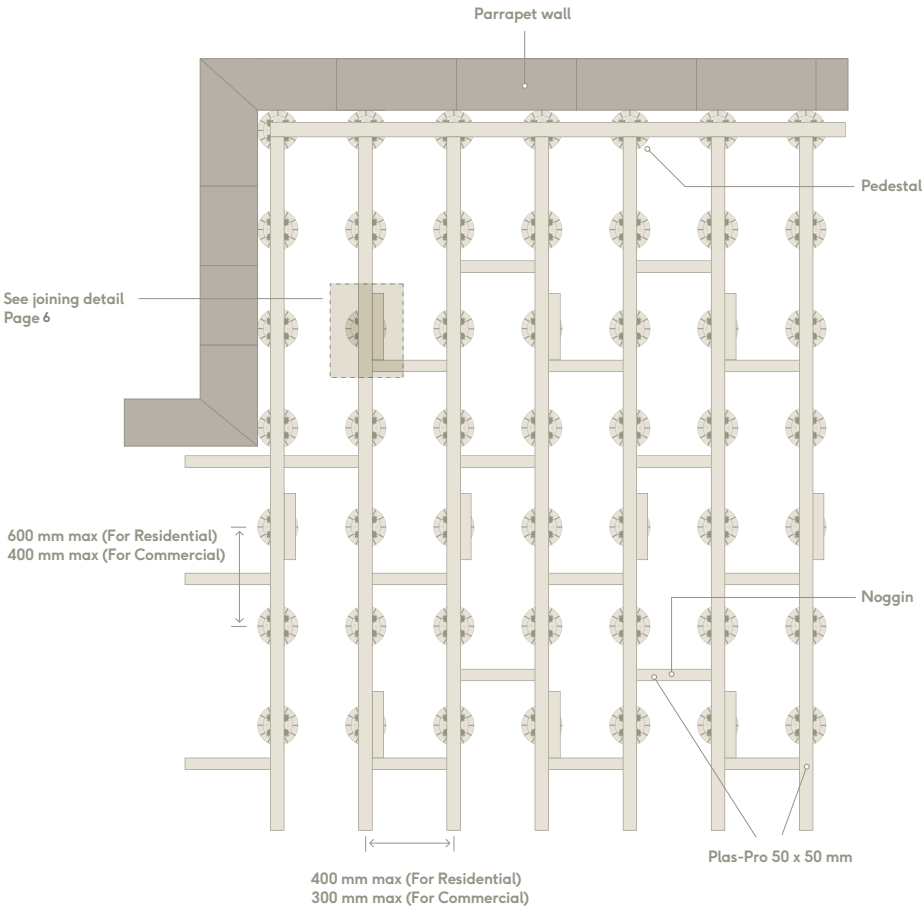
Plas-Pro offers many longer term advantages above traditional construction materials such as timber and composite systems. Designed for the discerning specifier and client looking for durable and cost effective lasting solutions.

Plas-Pro complements our terrace pedestal products and the unique Millboard external flooring range, enabling us to offer a complete, full turn key, non-rot external flooring system

Life Cycle Durability

Designed to outlast traditional timber and wood based materials, Plas-Pro gives the ultimate life cycle costs efficiencies.

It is widely specified by designers, architects, and installers for use in commercial, local authority and residential applications. Plas-pro offers a wholly maintenance free system making it the perfect choice when longevity, function and low maintenance matter.



Roof terrace standard subframe laying pattern

application details

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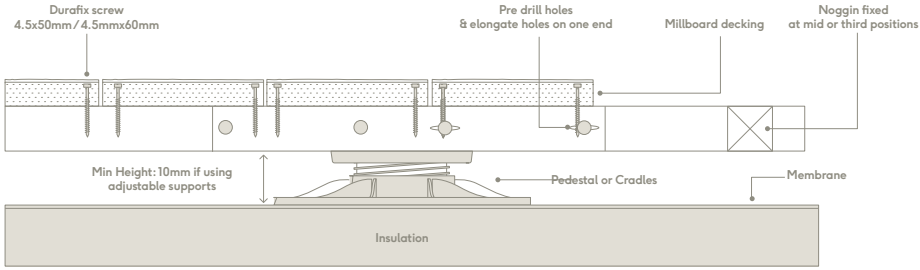
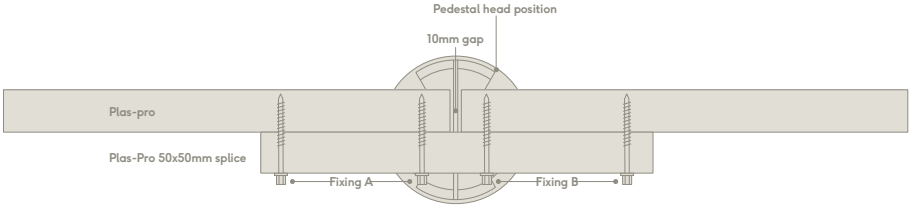
Jointing roof subframe battens

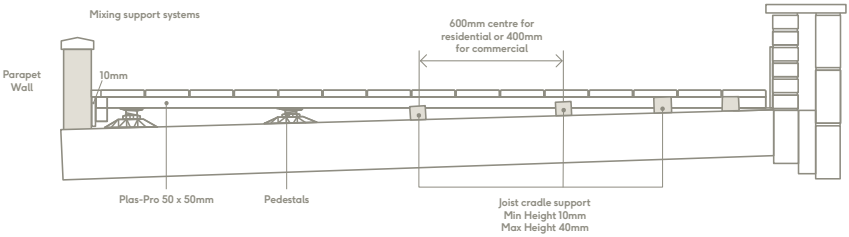




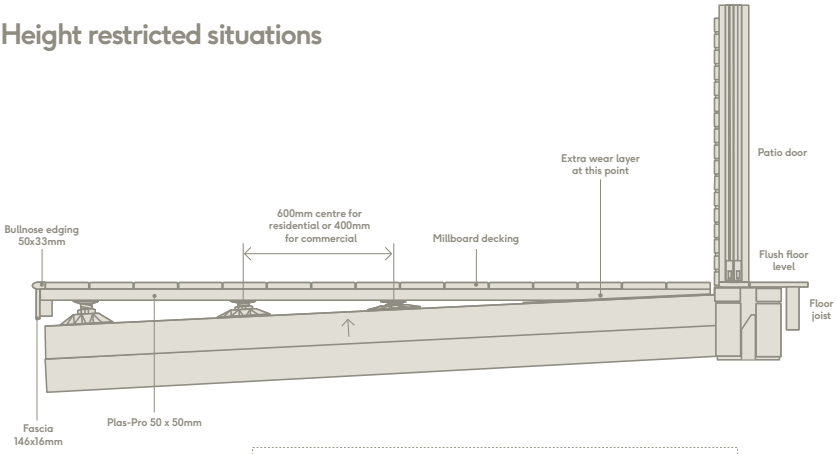
Note: For fixing B pre drill splice oversize by 2mm
and do not over tighten screws

application details

Mixed support systems

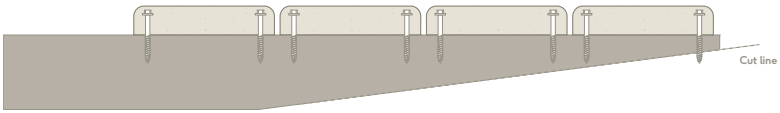


Height restricted situations



WARNING

Make sure screws that protrude through the Plas-Pro are cut off before laying the battens on to the roof membrane. We recommend a protective layer under the batten.



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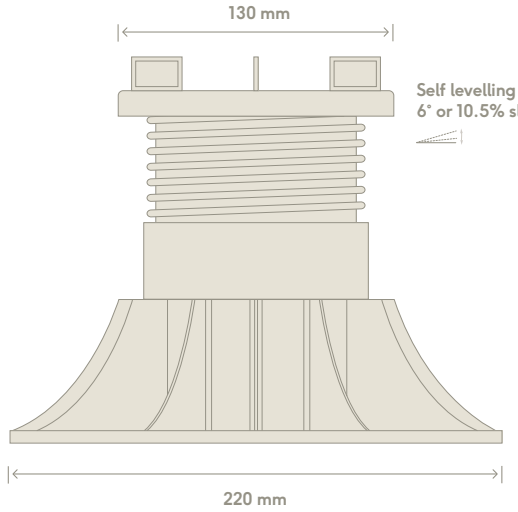
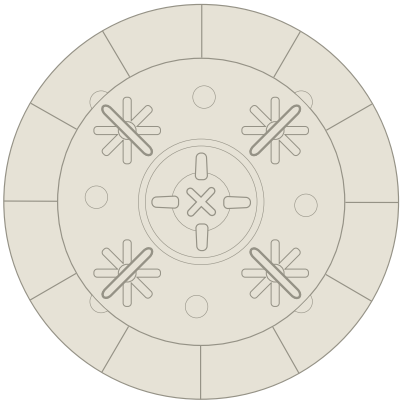
Typical pedestal section

Side View

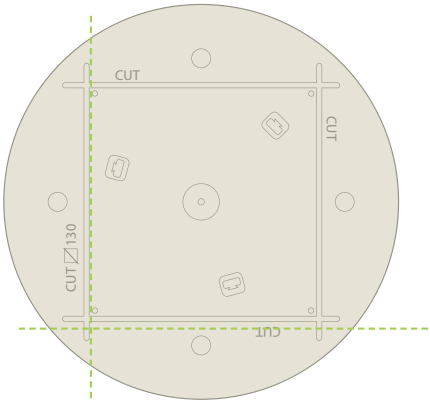
Sizes:
40 - 56 mm
50 - 70 mm
70 - 110 mm
110 - 160 mm
150 - 210 mm
100 mm extension collars



Top View



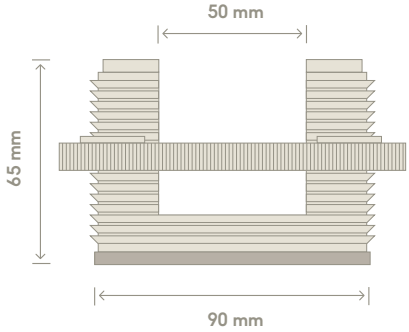
Bottom View - Dotted line shows cut marks



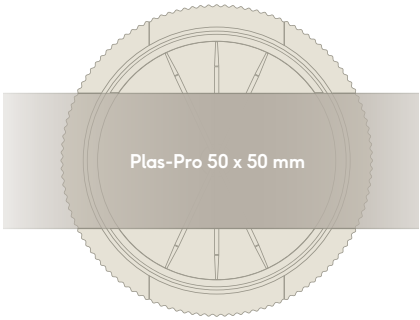
application details

10-40mm joist cradle

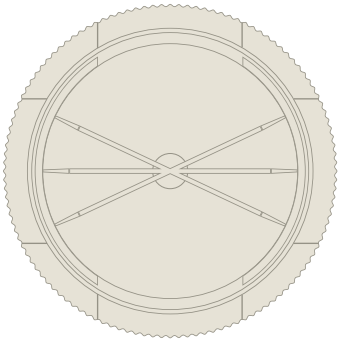
Side View



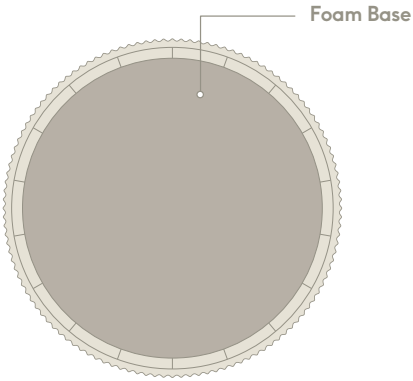
Top view with Plas-Pro



Top View



Bottom View



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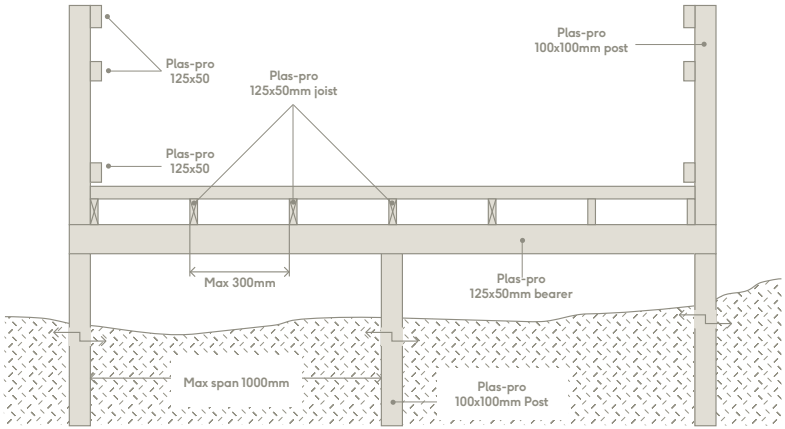
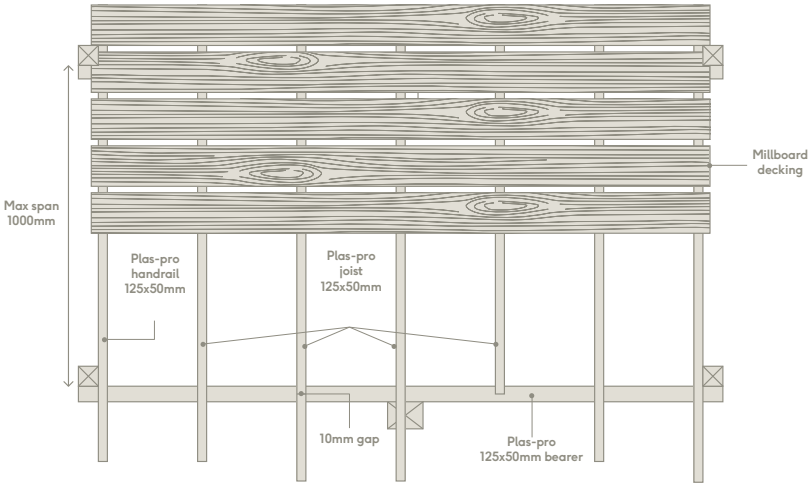
Joist cradle data	
Material	Recycled Nylon (glass filled)
Height Range	10-40mm
Compressive Strength	6Kn/m^2
Base Diameter	90mm
Bearer Capacity	45-50mm
Bearer/Cradle Connection	Loose Laid
Biological Chemical	Resistant to moulds, algae, alkali, bitumen
Working Temperature	-20°C - 120°C
Cradle Spacing	600mm centres along joist (residential) or 400mm centres along joist (commercial). Joists at 400mm centres (residential) or 300mm centres (commercial)
Fully tested to conform to the loading conditions for flooring as described in bs 5399	

Pedestal technical data	
Material	PP Polyproylene (recyclable), UV resistant
Biological/Chemical	Resistant to moulds, algae, alkali, bitumen
Height Range	40mm - 1000mm
Compression	2100 Kg (certified compression data available on request)
Base Diameter	210mm / 220mm
Head Diameter	130mm
Spacer Tab Thickness	4mm
Working Temperature	-40°C - 120°C

application details

Boardwalk





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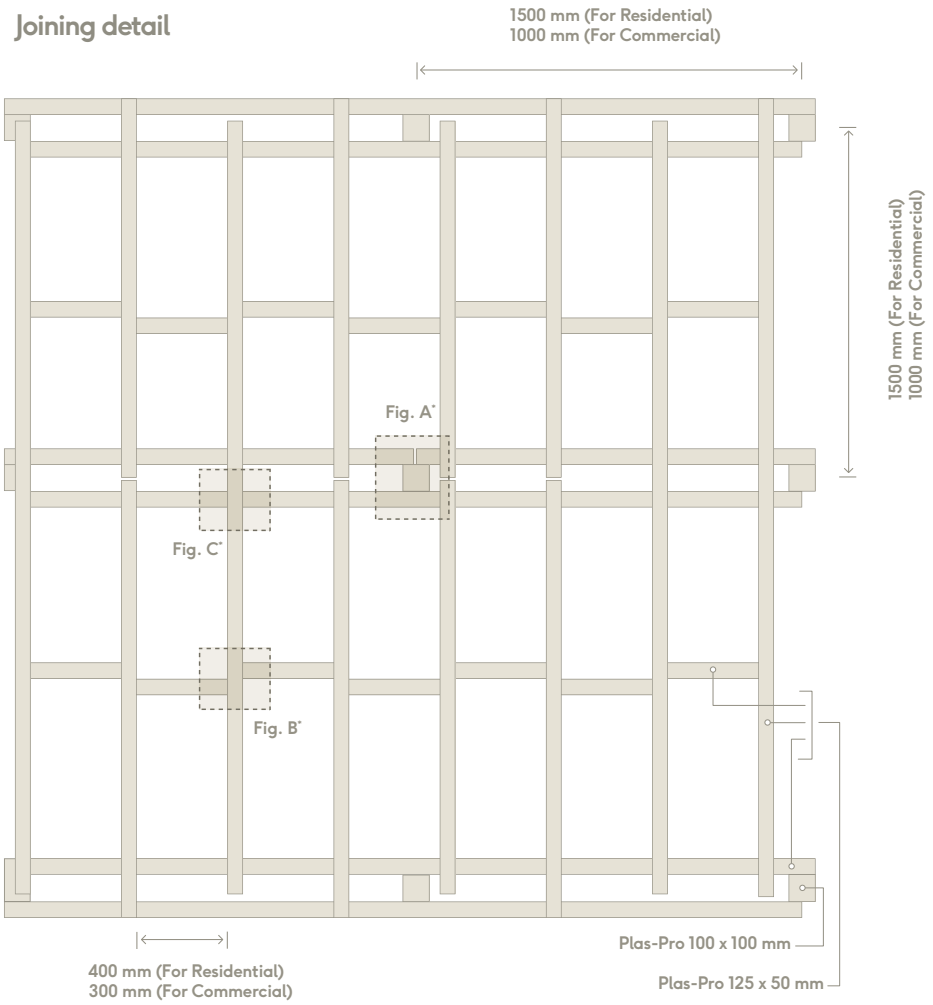
Joining detail



application details

Plas-Pro subframe construction:

100 x 100mm posts to be 1/3 in the ground 2/3 out of the ground with a minimum of 400mm in the ground

125 x 50mm bearers to be fixed to posts with 2 no. Durafix Hexhead screws with oversized pilot holes

125 x 50mm joists to be fixed to bearers at every intersection

125 x 50mm joists to have staggered joists across bearers with a 10mm gap between joist ends

Residential projects based on up to 1.5kN/m^2
Commercial projects based on up to 4kN/m^2

*Fig A, B and C detailed guides on pages 22 and 23

Fig A. Fixing joists to the post:

Plas-Pro Subframe Screws, Hex drive 90x6.3mm
Plas-Pro must always be pre drilled and also pilot holed

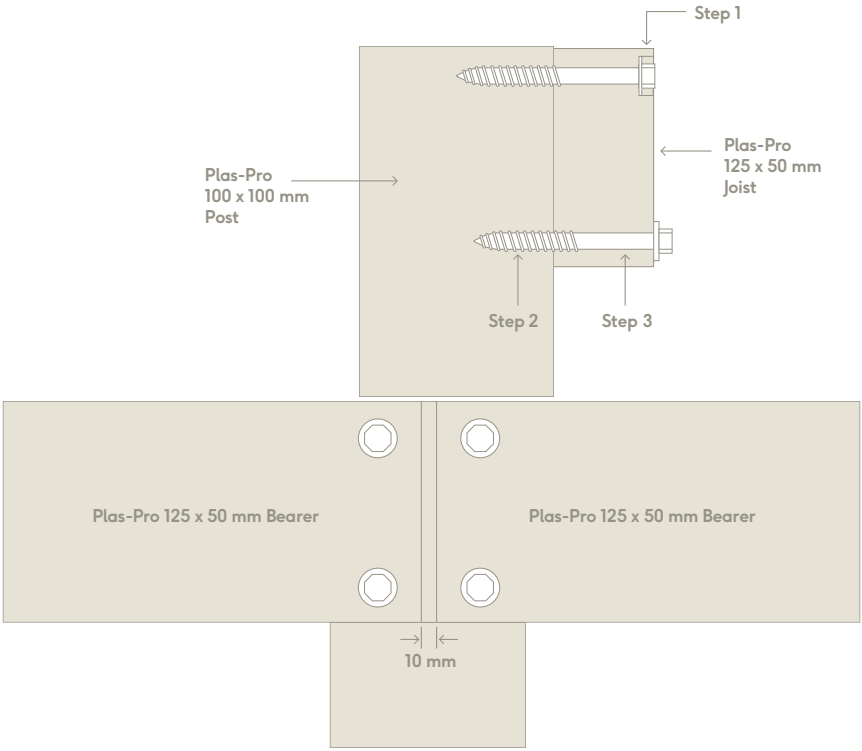
Step 1: Drill 15mm dia. hole at an angle 10mm deep (optional if head of fixing needs to be below the surface)

Step 2: Pilot hole 5mm dia. Drill 60mm deep

Step 3: Relief hole 8mm dia. Drill all the way through the joist

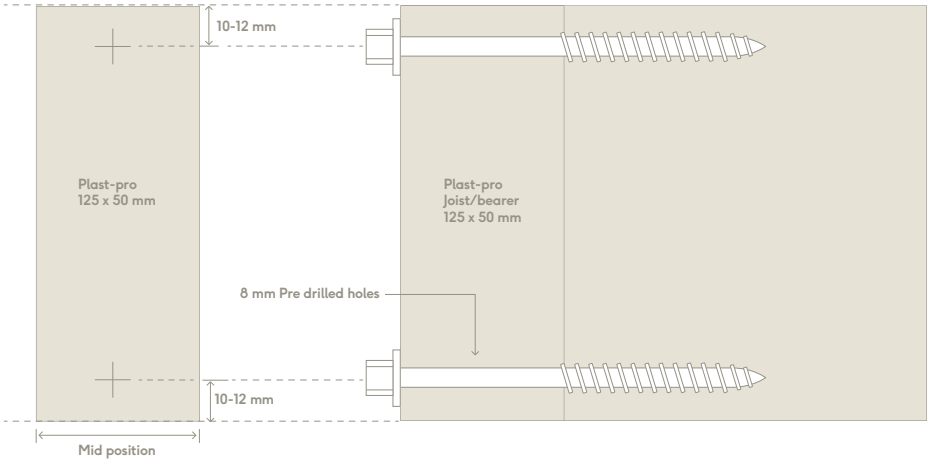
Step 4: Drive screw in

Visit website for up to date cad drawing www.millboard.co.uk/downloads



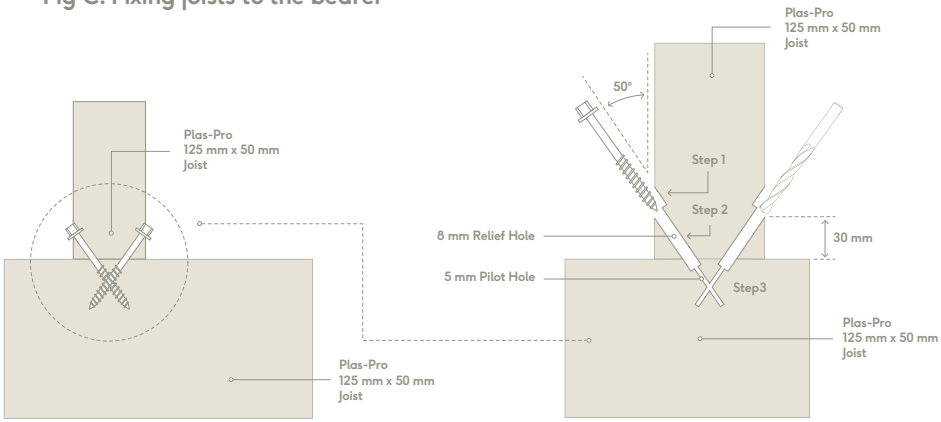
application details

Fig B. Cross section view



NOTE: Screw fixing method using Durafix hex head screws is for braces or noggins. If a joist is to be fixed then the use of truss clips with screws is recommended

Fig C. Fixing joists to the bearer



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Plastic subframe material test data

Technical data in an overview		125 X 50mm			
Testing:	Standard din en iso	Result			
3 Point blend	178	Flexural stress	-5° C	Mpa	35.1
		Bending e-modulus			2,261
		Flexural stress	23° C		24.0
		Bending e-modulus			1,424
		Flexural stress	65° C		16.5
		Bending e-modulus			856
Tensile	527-2	Strength		Mpa	15.6
		Tensile e-modulus			1,490
		Elongation		%	1.7
Timed tensile	899-1	Tensile e-modulus	1 Hour	Mpa	1,043
		Tensile e-modulus	24 Hours		975
		Tensile e-modulus	100 Hours		852
Timed 3 point bend	899-2	Bending e-modulus	1 Hour	Mpa	1,159
		Bending e-modulus	24 Hours		943
		Bending e-modulus	100 Hours		816
Pressure characteristics	604	Compression strength	1% Stretch	Mpa	2.5
			2% Stretch		5.3
			10% Stretch		27.9
			Compressive stretch at yield		29.0
		Pressure e-modulus			815
Charpy test	179	Impact resistance		Kj/m^2	12
Impact shore hardness	868	Shore hardness			62
Density test	1183-1	Density		G/cm^3	1.0529
Water absorbtion	62	23° C, 50%r.L		%	<1
		23° C in water			<1
		100° C in water			<1
Resistance	60093[4]	Surface resistance		Ω	$1.5 X 10^{14}$
		Specific surface resistance			$1.5 X 10^{15}$
		Flow/contact resistance			$>2.0 X 10^{14}$
		Specificflow/contact resistance			$>8.4 X 10^{14}$
Ball striking test	2039-1	Ball striking hardness		N/mm^2	39.52
Thermal expansion		Coefficient of thermal expansion		1/°C	0.0001510648
Screw pull out force		Drilled material		N	8,230
		Non pre-drilled		N	8,140

Plastic subframe material test data

Technical data in an overview		50 X 50 and 100 x 100mm			
Testing:	Standard din en iso	Result			
3 Point blend	178	Flexural stress	-5° C	Mpa	21.2
		Bending e-modulus			1,289
		Flexural stress	23° C		11.6
		Bending e-modulus			581
		Flexural stress	65° C		4.6
		Bending e-modulus			162
Tensile	527-2	Strength		Mpa	9.65
		Tensile e-modulus			659
		Elongation		%	13.8
Timed tensile	899-1	Tensile e-modulus	1 Hour	Mpa	316
		Tensile e-modulus	24 Hours		
		Tensile e-modulus	100 Hours		202
Timed 3 point bend	899-2	Bending e-modulus	1 Hour	Mpa	380
		Bending e-modulus	24 Hours		271
		Bending e-modulus	100 Hours		235
Pressure characteristics	604	Compression strength	1% Stretch	Mpa	1.8
			2% Stretch		3.3
			10% Stretch		13.3
			20%Stretch		18.2
		Pressure e-modulus			271
Charpy test	179	Impact resistance		Kj/m^2	412
Impact shore hardness	868	Shore hardness			53
Density test	1183-1	Density		G/cm^3	1.0062
Water absorbtion	62	23° C, 50%r.L		%	<1
		23° C in water			<1
		100° C in water			<1
Resistance	60093[4]	Surface resistance		Ω	$3.2 X 10^{13}$
		Specific surface resistance			$3.2 X 10^{14}$
		Flow/contact resistance			$9.0 X 10^{13}$
		Specificflow/contact resistance			$4.5 X 10^{14}$
Ball striking test	2039-1	Ball striking hardness		N/mm^2	18.44
Thermal expansion		Coefficient of thermal expansion		1/°C	0.00018993
Screw pull out force		Drilled material		N	7,500
		Non pre-drilled		N	7,500

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