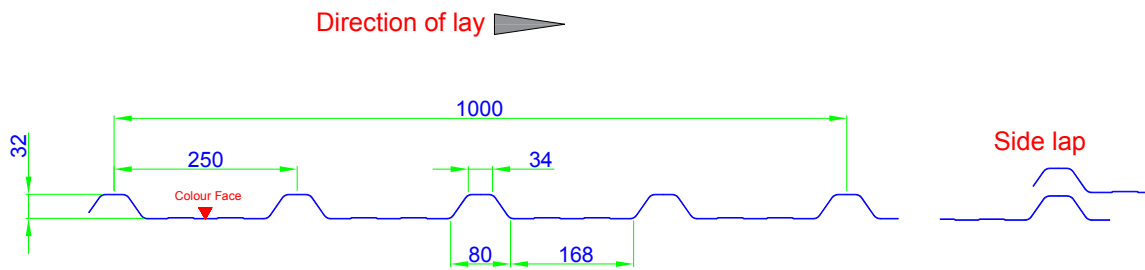
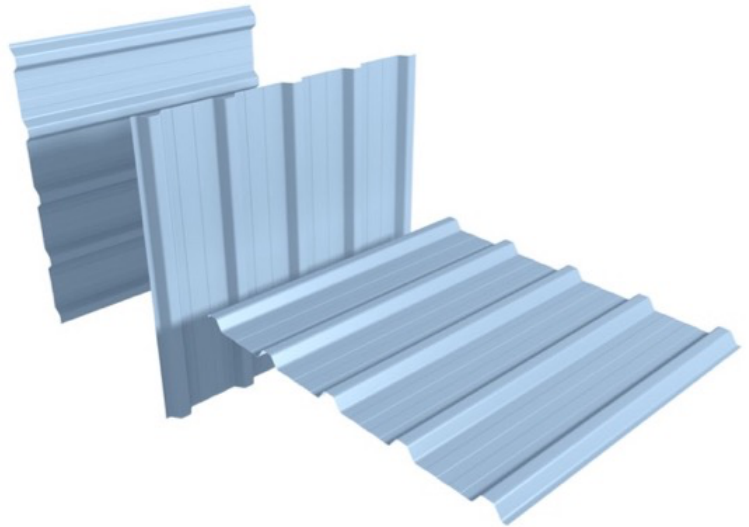


TF32/1000-4-R

Description	
Application	Single skin or insulated twin skin roofs and walls. Minimum roof pitch 4°, 6° if rooflights included Walls can be vertically or horizontally laid.
Profile depth	32mm
Profile cover width	1000mm
Profile pitch	250mm
Nominal profile weight	0.5mm = 4.8kg/m ² 0.7mm = 6.7kg/m ²
Pack weight	Max 2.0t
Lengths	Minimum length 1.00m Maximum length 10.00m
Curve options	N/A
UKCA reference	TF32/1000-4-R (Roof profile - Trapezoidal): BS EN 14782:2006



Materials	<p>Substrate: 0.7mm steel, Class1, S220GD+Z275, AZ150 or ZA255 0.5mm steel, Class1, S220GD+Z275, AZ150 or ZA255</p> <p>Paint finish options: To standard colour charts. Plastisol PVC(P), 200µm Polyester SP, 25µm High Build Polyester HBP, 50µm Colorcoat HPS200 Ultra®, 200µm Colorcoat® LG, 200µm Colorcoat® GP, 200µm</p> <p>Other: Enquire with Trimform Products for the availability of aluminium and other paint finishes such as PVdF and Agri-Steel™</p>
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TF32/1000-4-R

Installation

TF32/1000-4-R: outer roof sheet: fixing guide

Standard fixing positions



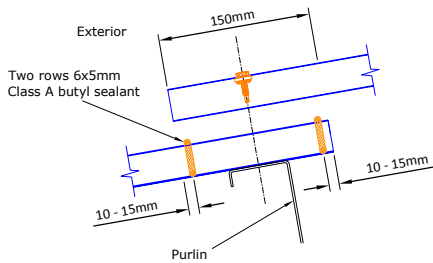
End lap fixing positions



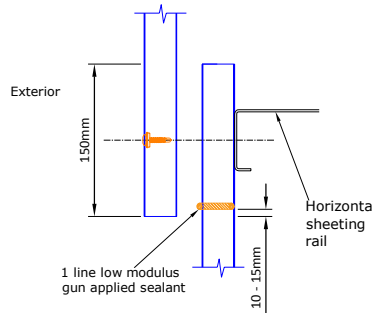
Eaves and ridge fixing positions



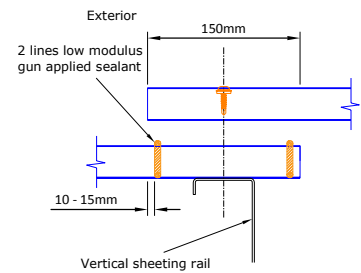
End lap - Roof



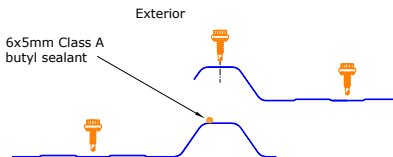
End lap - Vertical wall sheet



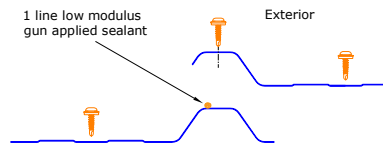
End lap - Horizontal wall sheet



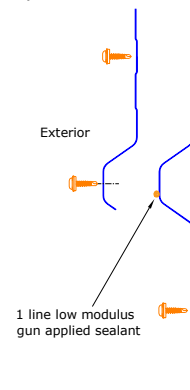
Side lap - Roof



Side lap - Vertical wall sheet



Side lap - Horizontal wall sheet



Laps/Sealants

Roof:

End laps: 150mm, 2 lines 5x6mm butyl sealant
Side laps: one full rib overlap, 1 line 5x6mm butyl sealant

Wall – vertically laid:

End laps: 100mm, 1 line low modulus gun applied sealant.
Side laps: one full rib overlap, 1 line low modulus gun applied sealant.

Wall – horizontally laid:

End laps: 150mm, 2 lines low modulus gun applied sealant.
Side laps: one full rib overlap, 1 line low modulus gun applied sealant.
Sealant strips should be overlapped by 25mm, avoid stretch of sealant at profile corners etc.
Bed filler blocks in sealant to ensure best seal.

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<p>Fastener frequency</p>	<p>Roof: End laps and perimeters (ridge/eaves, penetrations): 4No/m (every trough) central to a 150mm end lap. Edge distance minimum 30mm. Standard (intermediate supports): 4No/m (every trough) Side laps: Stitch at max 450mm centres.</p> <p>Wall – vertically laid: End laps and perimeters (top/bottom of walls, penetrations): 4No/m (every trough) central to a 100mm end lap. Edge distance minimum 30mm. Standard (intermediate supports): 4No/m (every trough) or 3No/m, subject to wind load design. Side laps: When specified, stitch at max 600mm centres.</p> <p>Wall – horizontally laid: End laps and perimeters (top/bottom of walls, penetrations): 4No/m (every trough) central to a 100mm end lap. Edge distance minimum 30mm. Standard (intermediate supports): 4No/m (every trough) or 3No/m, subject to wind load design. Side laps: When specified, stitch at max 600mm centres.</p>
<p>Fastener types</p>	<p>Roof: A2 stainless steel or carbon steel 5.5mm Ø, 19mm Ø sealer washer, colour matched head Stitchers: A2 stainless steel or carbon steel 5.5mm or 6.3mm Ø, 16mm Ø sealer washer, colour matched head.</p> <p>Wall: A2 stainless steel or carbon steel 5.5mm Ø, 16mm or 19mm Ø sealer washer, colour matched head Stitchers: A2 stainless steel or carbon steel 5.5mm or 6.3mm Ø, 16mm Ø sealer washer, colour matched head. Minimum embedment to timber 40mm. Note: A4 stainless fasteners required in coastal areas (within 2km of sea water)</p>
<p>Sealant types</p>	<p>Roof: Sealant: 5 x 6mm Class A butyl</p> <p>Wall – horizontally laid: Sealant: low modulus, non-setting, neutral cure, gun applied</p>
<p>Delivery</p>	<p>Load direct to roof or store at ground level in a protected area, on bearers (placed above each other), at a slope to drain, under tarpaulin if to be stored for longer than a week. Lift with care (do not drag sheets): <6m- by site telehandler or forklift with tines set apart, 1 pack at a time, >6m by crane using slings (not chains). Load to rafter backs. Inspect packs and record any damage/shortages on delivery paperwork, backed by photos to be sent to Trimform with a report within 48 hours.</p>
<p>Site work</p>	<p>The installer must comply with current safety and CDM regulations. Guidance is available at www.mcrma.co.uk, CDM2015 tab and Roof Safety tab. Side laps should face away from the prevailing wind Before installation check that the supporting structure is in a fit condition and to an acceptable installation tolerance to receive the roof and wall construction. Fully fix as work proceeds, a profile is only walkable and non-fragile when fixed. Do not over drive fasteners causing washer dishing. Where profiles have to be cut on site:</p> <ul style="list-style-type: none"> • Use a powered nibbler, reciprocating saw or circular saw. Do not use an abrasive wheel. • Support the profile along the line of the cut. • Protect the pre-coated finishes of the profile. • Clean any swarf or debris from the pre-coated finish of the profile immediately. <p>Minor scuffing of the colour coating should not be treated. Deeper scratches which reach the substrate should be repaired with touch-up paint. The touch-up paint should only be applied to the original scratch using a fine paint brush. As touch-up paint will dry to a slightly different colour than the original coating the area which is touched up should be kept as small as possible. Keep foot traffic and following trades traffic to a minimum.</p>

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Performance

Structural

The loads shown are kN/m², permissible for the profiles at the spans shown (ie load factors are within the tables, compare with unfactored loads).

- The designer must separately check fastener capacity under negative loads (wind uplift/suction).
- Minimum bearing width 40mm.
- “Single” = spanning over 2 purlins, “double” = 3 purlins, “multi” = 4 or more purlins.
- Avoid single spans wherever possible.
- In general, for foot traffic, use crawl boards or additional protection on support centres greater than 1.8 m for 0.7mm steel profiles and 1.4 m for 0.5mm steel profiles. “n/a” in the table indicates low resistance to construction loads.
- Consider crawl boards or additional protection in all cases where the sheets are single spanning.
- For spans exceeding 1.8m refer to Trimform.

BS 5427:16: Appendix C.5.6.4: Partial safety factors for limit state design. Load factors included within the load/span tables:

- Variable loads factor 1.5
- Permanent load factor 1.35
- Accidental load factor 1.05
- Serviceability load factor 1.0

Table 10: Deflection:

- Roofs – imposed loads- L/200
- Roofs –wind L/90
- Walls – wind L/90

0.7mm steel

Section Properties	f _u = 220N/mm ²		E = 210kN/mm ²		Broad flange in compression		Narrow flange in compression	
	t _N mm	Weight kg/m ²	Web crushing R _{w,Rd} kN/m		M _{n,Rd} kNm/m	I _{n,Rd} cm ⁴ /m	M _{b,Rd} kNm/m	I _{b,Rd} cm ⁴ /m
	0.7	6.70	9.63		1.03	10.40	0.98	10.96
TF32/1000-4-R Roof: 0.7mm steel Negative/wind uplift	Span	1.20	1.30	1.40	1.50	1.60	1.70	1.80
	Single	3.64	3.11	2.68	2.33	2.05	1.82	1.62
	Double	3.81	3.25	2.80	2.44	2.15	1.90	1.70
	Multi	4.55	4.06	3.50	3.05	2.68	2.38	2.12
TF32/1000-4-R Roof: 0.7mm steel Positive/imposed downward	Span	1.20	1.30	1.40	1.50	1.60	1.70	1.80
	Single	3.64	3.11	2.68	2.33	2.05	1.80	n/a
	Double	2.52	2.23	1.99	1.78	1.61	1.46	1.33
	Multi	3.01	2.67	2.38	2.14	1.93	1.76	1.60
TF32/1000-4-R Roof: 0.7mm steel Positive/snow drift loads	Span	1.20	1.30	1.40	1.50	1.60	1.70	1.80
	Single	5.11	4.02	3.22	2.62	2.16	1.80	n/a
	Double	3.60	3.18	2.84	2.55	2.30	2.08	1.90
	Multi	4.30	3.81	3.40	3.05	2.76	2.51	2.29
TF32/1000-4-R Wall: 0.7mm steel Wind (negative and positive loads)	Span	1.20	1.30	1.40	1.50	1.60	1.70	1.80
	Single	3.64	3.11	2.68	2.33	2.05	1.82	1.62
	Double	3.64	3.11	2.68	2.33	2.05	1.82	1.62
	Multi	4.55	3.88	3.35	2.92	2.56	2.27	2.02

TF32/1000-4-R

0.5mm steel								
Section Properties	$f_u = 220\text{N/mm}^2$		$E = 210\text{kN/mm}^2$		Broad flange in compression		Narrow flange in compression	
	t_N mm	Weight kg/m ²	Web crushing $R_{w,Rd}$ kN/m		$M_{n,Rd}$ kNm/m	$I_{n,Rd}$ cm ⁴ /m	$M_{b,Rd}$ kNm/m	$I_{b,Rd}$ cm ⁴ /m
	0.5	4.8	4.646		0.698	6.566	0.605	6.891
TF32/1000-4-R Roof: 0.5mm steel Negative/wind uplift	Span	1.20	1.30	1.40	1.50	1.60	1.70	1.80
	Single	2.24	1.91	1.65	1.43	1.26	1.12	1.00
	Double	2.17	2.00	1.86	1.65	1.45	1.29	1.15
	Multi	2.46	2.27	2.11	1.97	1.82	1.61	1.44
TF32/1000-4-R Roof: 0.5mm steel Positive/imposed downward	Span	1.20	1.30	1.40	1.50	1.60	1.70	1.80
	Single	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Double	1.43	1.28	n/a	n/a	n/a	n/a	n/a
	Multi	1.70	1.52	1.36	n/a	n/a	n/a	n/a
TF32/1000-4-R Roof: 0.5mm steel Positive/snow drift loads	Span	1.20	1.30	1.40	1.50	1.60	1.70	1.80
	Single	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Double	2.05	1.82	n/a	n/a	n/a	n/a	n/a
	Multi	2.43	2.16	1.94	n/a	n/a	n/a	n/a
TF32/1000-4-R Wall: 0.5mm steel Wind (negative and positive loads)	Span	1.20	1.30	1.40	1.50	1.60	1.70	1.80
	Single	2.24	1.91	1.65	1.43	1.26	1.12	1.00
	Double	2.17	1.91	1.65	1.43	1.26	1.12	1.00
	Multi	1.54	1.42	1.32	1.23	1.16	1.09	1.03
Non Fragility	ACR[M]001:2015 - Test For Non-Fragility of Large Element Roofing Assemblies [fifth edition] 0.7mm: Class B when screw fixed as described in the Installation section 0.5mm: Class B when screw fixed as described in the Installation section							
Durability	<p>Refer to Trimform for the durability performance of a particular material.</p> <p>In general:- PVC plastisol finishes have a surface texture (leather grain or scintilla), polyester finishes are smooth. 200µm plastisol PVC paint finishes are most tolerant of foot traffic and installation and are particularly suited to roofing. Colorcoat HPS200 Ultra® has the longest manufacturer-to-building owner guarantee (Confidex®, up to 40 years). Colorcoat® LG and Colorcoat® GP have guarantees of up to 25 years, available via Trimform. Polyester coated materials are the most economic choice. High Build Polyester (HBP) has the best durability and tolerance of installation of the smooth finish polyester painted materials. Standing water must be avoided on pre-painted steel. Pre-painted finishes perform better if exposed to rainwash, this applies to roofs and walls. Roofs and walls should be inspected annually and any debris or items standing on the painted surface removed (build ups of moss/ leaves/ builders debris, dead birds etc). Damage to painted surfaces must be repaired.</p>							
Fire properties	Colorcoat HPS200 Ultra®, Colorcoat® LG and Colorcoat® GP: External fire performance: EN13501-5: Class B _{ROOF} t(4). Reaction to fire: EN13501-1: CWFT C-s3,d0, Commission Decision 2010/737/EU table 2 Generic Plastisol coated (PVC) steel: External fire performance: CWFT Commission Decision 2005/403/EC B _{ROOF} t(1,2,3) Reaction to fire: EN13501-1: CWFT C-s3,d0 Commission Decision 2010/737/EU table 2 Generic Polyester coated (PE) steel: External fire performance: CWFT Commission Decision 2000/553/EC Reaction to fire: Commission Decision 2010/737/EU table 1: A1							

TF32/1000-4-R

<p>Safety data</p>	<p>COMPOSITION/INFORMATION ON INGREDIENTS</p> <p>Single skin coated steel profiled sheets products used for roof and wall cladding industrial and commercial buildings. Refer to Trimform and industry standard installation guidance for use. To be used in accordance with industry standard practices, Building Regulations and site RAMS. If any other use is to be considered, please contact Trimform.</p> <p>HAZARDS</p> <ol style="list-style-type: none"> Under normal conditions of storage and when fixed, the products do not constitute a hazard. During the fixing operation or whilst handling, laceration of the skin is possible on the edges of the sections, and if oil is present on the material skin contamination may occur. When breaking open strapping which is used to secure bundles of sections, there is a risk of skin or eye injury. Some components are heavy and injury may result from incorrect lifting or handling. Cutting the product may cause flying swarf, which could injure skin, particularly eyes. When subjected to elevated temperatures, e.g. during welding or flame cutting, fumes containing oxides of iron and zinc may be produced, which can cause metal fume fever if inhaled. This is a short lasting condition with symptoms similar to influenza. If involved in a fire, any plastic components could degrade and generate smoke and fumes, which could be toxic if inhaled. <p>FIRST AID MEASURES</p> <ul style="list-style-type: none"> Inhalation: N/A Skin: Wash with soap and water Eyes: If dust makes contact with eyes, rinse with clean water Ingestion: N/A Other: Seek medical attention if any symptoms persist <p>FIRE-FIGHTING MEASURES</p> <p>These products do not pose a fire hazard. However, packaging, rubber elements and protective coatings may be combustible and emit hazardous fumes. No special fire fighting procedures or extinguishing media's are required to deal with burning products.</p> <p>ACCIDENTAL RELEASE MEASURES</p> <p>Product discarded in an unaltered form is classified as a non-hazardous waste.</p> <p>HANDLING/STORAGE</p> <ol style="list-style-type: none"> Store in a location free from ignition hazard, such as open flames, cutting and welding torches, high surface temperatures, electric heaters and other forms of direct radiant heat. Ensure stability of stack and provide adequate aisle space for access between stacks. Store packs off the ground and on a slope so that should rain water penetrate the wrapping, water will drain away. Support the packs evenly with bearers spaced at 2m. Bearers should always be placed one directly above another. During the fixing operation or whilst handling, laceration of the skin is possible on the edge of the sheet. Product is supplied in heavy bundles and injury may result from incorrect lifting or handling.
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TF32/1000-4-R

	<p>7. Cutting the product may cause flying swarf, which could injure skin, particularly eyes. Cutting can also produce dust, which can cause irritation if inhaled.</p> <p>EXPOSURE CONTROL/PERSONAL PROTECTION</p> <ol style="list-style-type: none"> 1. Protective clothing, particularly gloves, should be worn to avoid skin laceration. 2. Eye and ear protection should be used when cutting. 3. Handling sheets and bundles should be in accordance with HSE recommendations. 4. Do not use flame cutting equipment, blow lamps, or any high temperature equipment or process near the panels. 5. If subject to abnormally high temperatures ensure adequate ventilation. 6. In a fire, breathing apparatus should be worn. <p>PHYSICAL AND CHEMICAL PROPERTIES</p> <p>Coated steel sheets rolled to various profiles. Steel is hot-dip galvanised or Aluzinc coated.</p> <p>STABILITY AND REACTIVITY</p> <p>Stable and un-reactive under normal conditions.</p> <p>TOXICOLOGICAL INFORMATION</p> <p>N/A</p> <p>ECOLOGICAL INFORMATION</p> <p>Non-hazardous product with no known adverse environmental effects.</p> <p>DISPOSAL INFORMATION</p> <p>Dispose at an authorised metal recycling facility in accordance with the Waste Management Licensing Regulations. Observe usual safety precautions with polythene bags, wrapping and packaging. Waste product should be disposed of in accordance with local laws and regulations. Clean, undamaged product may be re-used.</p> <p>TRANSPORT INFORMATION</p> <p>Not classed as hazardous for transportation. Ensure security of load securing straps with edge protectors should be used. It is recommended that mechanical lifting equipment is used when moving bulk quantities</p> <p>REGULATORY INFORMATION</p> <p>N/A</p>
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TF32/1000-4-R

References			
Reference Standards	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> BS EN 508-1:2014 BS EN 14782:2006 BS EN 10346: 2015 BS 5427:2016 MCRMA GD 20 Guidance document on serviceability states and deflection criteria </td> <td style="width: 50%; vertical-align: top;"> BS EN 1991-1-3:2003+A1:2015 BSEN13501-1:2016 BSEN13501-5:2016 ACR[M]001:2014 :5th Edition. MCRMA Guidance Documents and Design Guides (www.mcrma.co.uk) </td> </tr> </table>	BS EN 508-1:2014 BS EN 14782:2006 BS EN 10346: 2015 BS 5427:2016 MCRMA GD 20 Guidance document on serviceability states and deflection criteria	BS EN 1991-1-3:2003+A1:2015 BSEN13501-1:2016 BSEN13501-5:2016 ACR[M]001:2014 :5 th Edition. MCRMA Guidance Documents and Design Guides (www.mcrma.co.uk)
BS EN 508-1:2014 BS EN 14782:2006 BS EN 10346: 2015 BS 5427:2016 MCRMA GD 20 Guidance document on serviceability states and deflection criteria	BS EN 1991-1-3:2003+A1:2015 BSEN13501-1:2016 BSEN13501-5:2016 ACR[M]001:2014 :5 th Edition. MCRMA Guidance Documents and Design Guides (www.mcrma.co.uk)		
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