CREATIVE PULTRUSIONS

American Plastic Lumber

american-plasticlumber.com
Toll Free: 877.677.7701

PRODUCT BROCHURE

AMERIBOARD

Fiberglass (FG) Plank

THE COMPANY

Creative Pultrusions, Inc., (CPI) is the world leader in pultrusion manufacturing. Our commitment to continuous process improvement and to become "Best in Class" has transformed CPI into a world renowned pultruder that specializes in pultruding large custom profiles, while utilizing high performance resins in combination with CPI's proprietary high pressure injection process.

Our quality process is based on a strong commitment to continuous improvement in products, service, operations and client satisfaction. It all adds up to the kind of manufacturing experience you would expect from a world-class pultruder that never settles for status quo. CPI can take your project from
concept to production. Our staff of talented engineers combined with over 45 years of pultrusion experience makes CPI the right choice to serve you!

OUR HISTORY

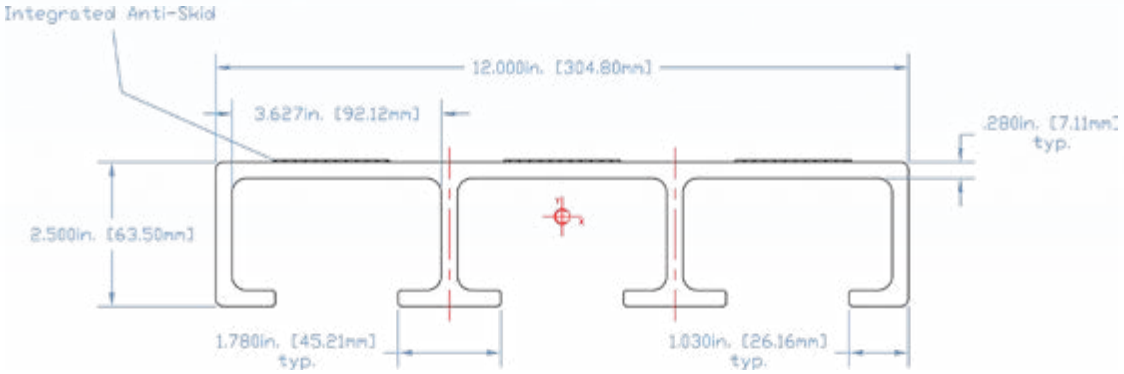
Over the course of 45 years, CPI transitioned into the company it is today. In September of 2008 CPI was acquired by Hill & Smith Holdings PLC (HS).

HS is an international group with leading positions in the design, manufacturing, and supply of infrastructure products and galvanizing services. Our success is driven by our strategy of innovation, product development and international expansion, alongside a highly entrepreneurial management culture. Hill & Smith Holdings' group companies serve their customers from facilities in 7 countries: Australia, France, India, Norway, Sweden, UK and the USA. Hill & Smith Holdings PLC employs approximately 4,200 staff members and is quoted on the London Stock Exchange (LSE: HILS.L).

AMERIBOARD FIBERGLASS FG 1203 PLANK

The lightweight AMERIBOARD FIBERGLASS (FG) 1203 PLANK has been designed for exceptional performance in harsh corrosive environments. Exhibiting a bending strength greater than that of steel with nearly twice the stiffness of a typical pultuded plank, the high strength plank will span further and hold greater loads than ordinary pultruded planks.

The AMERIBOARD FIBERGLASS (FG) 1203 PLANK features an integrated wearing surface that is formed during the pultrusion process. The integral wearing surface reduces the plank weight by eliminating the need for a secondary applied antiskid surface.



The AMERIBOARD FIBERGLASS (FG) 1203 PLANK is available in the following resin systems and colors:

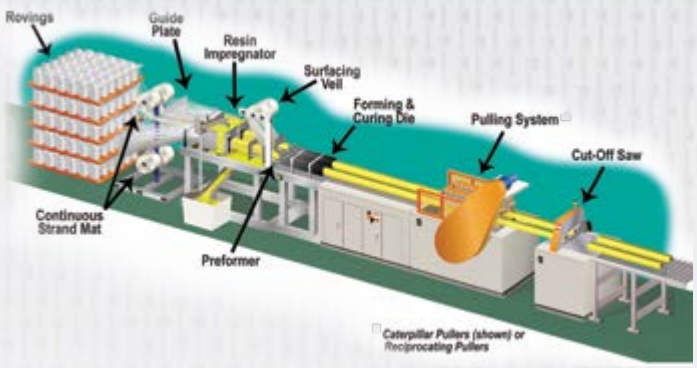
- **1500 - STANDARD POLYESTER RESIN (I), NON FIRE RETARDANT, OLIVE GREEN**
- **1525 - STANDARD POLYESTER RESIN (VFR), FIRE RETARDANT, SLATE GRAY**
- **1625 - STANDARD VINYL ESTER RESIN (VFR) FIRE RETARDANT, BEIGE**

Note: minimum quantities apply, consult your sales representative for custom colors and minimum order requirements. Legacy antiskid coatings are available upon request.

THE PULTRUSION PROCESS

Pultrusion is a continuous manufacturing process utilized to make composite profiles with constant cross-sections whereby fiberglass reinforcements, in the form of roving and mats, are saturated with resin and channelled into a heated die. The profile exits the die in a solid state and in the form of the desired cross-section.

Pultruded profiles are used extensively for structural applications in which lightweight, high-strength, and corrosion resistance attributes are sought. Pultruded profiles have higher tensile strength than typical structural steel while weighing about 80% less. To learn more about the pultrusion process go to www.creativepultrusions.com.



FEATURES AND BENEFITS

- Corrosion Resistant - Ideal for highly corrosive applications
- Environmentally Sensitive - Leaches no toxins
- Lightweight - 80% lighter than steel
- Excellent Dielectric Strength - Enhances worker safety
- Exceptional Service Life - Greatest life cycle cost benefit
- Manufactured in the USA in an ISO 9001:2015 compliant facility
- Exceptional Strength and Stiffness - Span further and carry higher loads
- Speed of Installation - Easy to carry, drill and cut in the field

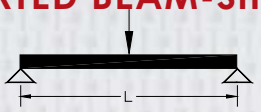
APPLICATIONS

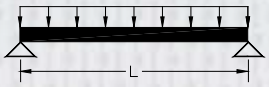
- Access Platform Decking
- Beach Crossovers & Walkways
- Dock Decking
- Industrial Walkways
- Nature Boardwalks
- Rails to Trails Decking
- Stair Steps
- Water Parks & Gangways
- Wood Deck Replacement

Photo Courtesy of American Plastic Lumber

AMERIBOARD FIBERGLASS (FG) 1203 PLANK (PART# GR112)

SIMPLE SUPPORTED BEAM-SINGLE SPAN





AMERIBOARD FG PLANK
12" Wide x 2.5" High
I, IFR, VFR Series

Imperial

E_b = 4.65 Msi | G_b = 0.18 Msi | Characteristic longitudinal compressive strength (F_L^c) = 68,800 psi

I_x =6.58 in^4/ft | S_x = 4.22 in^3/ft | Characteristic in-plane shear strength (F_{LT}^v) = 4,200 psi

A_w = 2.8 in^2/ft | Weight = 6.14 psf | Solid Top Decking

	Allowable Concentrated Load Tables (lb/ft width of panel)							Allowable Uniform Load Tables (lb/ft²)					
	L/D Ratios			Deflection (in)				L/D Ratios			Deflection (in)		
Span (in)	180	240	360	0.25	0.375	Max. Service Load	Span (in)	180	240	360	0.25	0.375	Max. Service Load
12	****	7110	4740	****	****	7840	**12**	****	****	****	****	****	7840
18	7840	5880	3920	****	****	7840	**18**	****	****	4849	****	****	5227
24	6311	4733	3155	****	****	7840	**24**	****	4258	2839	****	****	3920
30	5046	3784	2523	7568	****	7840	**30**	****	2657	1772	****	****	3136
36	4053	3039	2026	5066	7599	7840	**36**	2327	1745	1164	****	****	2613
42	3288	2466	1644	3523	5284	7840	**42**	1595	1196	798	1709	****	2240
48	2700	2025	1350	2531	3797	7840	**48**	1134	850	567	1063	1594	1960
54	2245	1684	1123	1871	2806	7840	**54**	831	623	416	693	1039	1742
60	1889	1417	945	1417	2125	7748	**60**	625	469	313	469	703	1568
66	1608	1206	804	1096	1644	7043	**66**	481	361	241	328	492	1425
72	1382	1037	691	864	1296	6456	**72**	378	283	189	236	354	1307
78	1199	899	600	692	1038	5960	**78**	302	226	151	174	261	1206
84	1049	787	525	562	843	5534	**84**	244	183	122	131	196	1120
90	925	694	462	462	694	5165	**90**	201	150	100	100	150	1045
96	821	616	410	385	577	4842	**96**	167	125	83	78	117	980

Metric

E_b = 32.1 Gpa | G_b = 1.26 Gpa | Characteristic longitudinal compressive strength (F_L^c) = 474 Mpa

I_x = 8.98E-6 m^4/m | S_x = 2.27-4 m^3/m | Characteristic in-plane shear strength (F_{LT}^v) = 29 Mpa

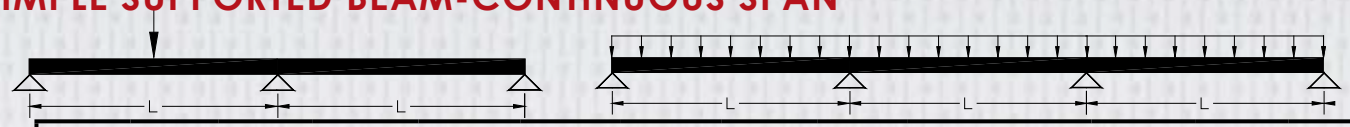
A_w = 5.9E-3 m^2/m | Weight = 30.0 kg/m^2 | Solid Top Decking

	Allowable Concentrated Load Tables (kN/m width of panel)							Allowable Uniform Load Tables (kN/m²)					
	L/D Ratios			Deflection (mm)				L/D Ratios			Deflection (mm)		
Span (m)	180	240	360	6	10	Max. Service Load	Span (m)	180	240	360	6	10	Max. Service Load
0.25	****	109.8	73.2	****	****	114.4	**0.25**	****	****	****	****	****	457.7
0.50	107.8	80.9	53.9	****	****	114.4	**0.50**	****	****	198.3	****	****	228.8
0.75	74.9	56.2	37.5	107.9	****	114.4	**0.75**	****	131.8	87.9	****	****	152.6
1.00	52.5	39.4	26.3	56.7	94.5	114.4	**1.00**	89.7	67.3	44.8	96.9	****	114.4
1.25	37.9	28.4	19.0	32.8	54.6	114.4	**1.25**	50.9	38.1	25.4	43.9	73.2	91.5
1.50	28.3	21.2	14.2	20.4	34.0	114.4	**1.50**	31.3	23.4	15.6	22.5	37.5	76.3
1.75	21.8	16.3	10.9	13.4	22.4	98.5	**1.75**	20.5	15.3	10.2	12.6	21.0	65.4
2.00	17.2	12.9	8.6	9.3	15.5	86.2	**2.00**	14.1	10.5	7.0	7.6	12.7	57.2
2.25	13.9	10.4	6.9	6.7	11.1	76.6	**2.25**	10.1	7.5	5.0	4.8	8.0	50.9
2.50	11.4	8.6	5.7	4.9	8.2	68.9	**2.50**	7.4	5.6	3.7	3.2	5.3	45.8
2.75	9.6	7.2	4.8	3.8	6.3	62.7	**2.75**	5.6	4.2	2.8	2.2	3.7	41.6
3.00	8.1	6.1	4.1	2.9	4.9	57.4	**3.00**	4.4	3.3	2.2	1.6	2.6	38.1

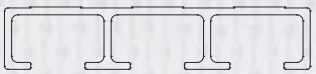
Maximum allowable load is determined by a 2.5 safety factor in both flexure and 3.0 safety factor in shear.

AMERIBOARD FIBERGLASS (FG) 1203 PLANK (PART# GR112)

SIMPLE SUPPORTED BEAM-CONTINUOUS SPAN



AMERIBOARD FG PLANK
12" Wide x 2.5" High
I, IFR, VFR Series



Imperial

E_b = 4.65 Msi | G_b = 0.18 Msi | Characteristic longitudinal compressive strength (F_L^c) = 68,800 psi

I_x =6.58 in^4/ft | S_x = 4.22 in^3/ft | Characteristic in-plane shear strength (F_{LT}^v) = 4,200 psi

A_w = 2.8 in^2/ft | Weight = 6.14 psf | Solid Top Decking

	Allowable Concentrated Load Tables (lb/ft width of panel)							Allowable Uniform Load Tables (lb/ft^2)					
	L/D Ratios			Deflection (in)				L/D Ratios			Deflection (in)		
Span (in)	180	240	360	0.25	0.375	Max. Service Load	Span (in)	180	240	360	0.25	0.375	Max. Service Load
12	****	****	4973	****	****	6602	**12**	****	****	****	****	****	6533
18	****	6442	4294	****	****	6602	**18**	****	****	****	****	****	4356
24	****	5408	3605	****	****	6602	**24**	****	****	****	****	****	3267
30	5978	4483	2989	****	****	6602	**30**	****	****	2486	****	****	2613
36	4944	3708	2472	6180	****	6602	**36**	****	****	1726	****	****	2178
42	4105	3079	2053	4399	6598	6602	**42**	****	1854	1236	****	****	1867
48	3433	2575	1717	3219	4828	6602	**48**	****	1364	909	****	****	1633
54	2896	2172	1448	2413	3620	6602	**54**	1369	1027	684	1141	****	1452
60	2465	1849	1232	1849	2773	6602	**60**	1052	789	526	789	1183	1307
66	2117	1587	1058	1443	2165	6602	**66**	823	617	412	561	842	1188
72	1833	1375	916	1146	1718	6602	**72**	655	491	327	409	614	1089
78	1600	1200	800	923	1385	6602	**78**	529	396	264	305	457	1005
84	1407	1055	703	754	1130	6602	**84**	432	324	216	232	347	933
90	1245	934	623	623	934	6358	**90**	358	268	179	179	268	871
96	1109	832	555	520	780	5961	**96**	299	224	149	140	210	817

Metric

E_b = 32.1 Gpa | G_b = 1.26 Gpa | Characteristic longitudinal compressive strength (F_L^c) = 474 Mpa

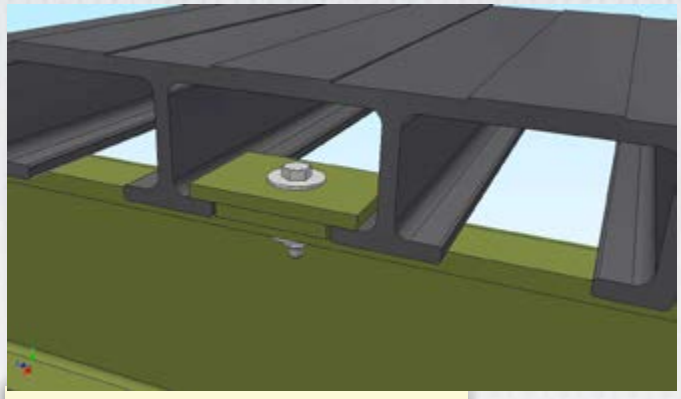
I_x = 8.98E-6 m^4/m | S_x = 2.27-4 m^3/m | Characteristic in-plane shear strength (F_{LT}^v) = 29 Mpa

A_w = 5.9E-3 m^2/m | Weight = 30.0 kg/m^2 | Solid Top Decking

	Allowable Concentrated Load Tables (kN/m width of panel)							Allowable Uniform Load Tables (kN/m^2)					
	L/D Ratios			Deflection (mm)				L/D Ratios			Deflection (mm)		
Span (m)	180	240	360	6	10	Max. Service Load	Span (m)	180	240	360	6	10	Max. Service Load
0.25	****	****	75.7	****	****	96.3	**0.25**	****	****	****	****	****	381.4
0.50	****	89.7	59.8	****	****	96.3	**0.50**	****	****	****	****	****	190.7
0.75	88.6	66.4	44.3	****	****	96.3	**0.75**	****	****	122.7	****	****	127.1
1.00	65.0	48.7	32.5	70.1	****	96.3	**1.00**	****	****	68.3	****	****	95.3
1.25	48.4	36.3	24.2	41.8	69.7	96.3	**1.25**	****	61.5	41.0	70.9	****	76.3
1.50	36.9	27.7	18.4	26.6	44.3	96.3	**1.50**	****	39.3	26.2	37.7	62.9	63.6
1.75	28.8	21.6	14.4	17.8	29.6	96.3	**1.75**	35.2	26.4	17.6	21.7	36.2	54.5
2.00	23.0	17.2	11.5	12.4	20.7	96.3	**2.00**	24.7	18.5	12.3	13.3	22.2	47.7
2.25	18.7	14.0	9.3	9.0	15.0	94.3	**2.25**	17.9	13.4	8.9	8.6	14.3	42.4
2.50	15.5	11.6	7.7	6.7	11.1	84.8	**2.50**	13.3	10.0	6.7	5.8	9.6	38.1
2.75	13.0	9.7	6.5	5.1	8.5	77.1	**2.75**	10.2	7.7	5.1	4.0	6.7	34.7
3.00	11.1	8.3	5.5	4.0	6.6	70.7	**3.00**	8.0	6.0	4.0	2.9	4.8	31.8

Maximum allowable load is determined by a 2.5 safety factor in both flexure and 3.0 safety factor in shear.

DECK TO GIRDER CONNECTIONS

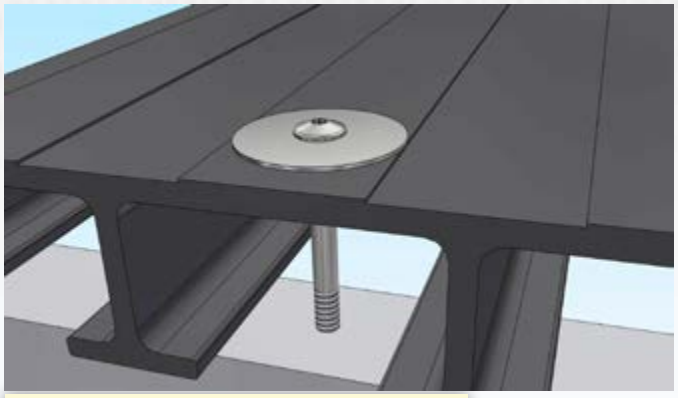


Hidden Clamp Connection

The hidden clamp connection features a fiber-glass reinforced polymer (FRP) hold down clamp plate that captures the bottom flanges of the AMERIBOARD FIBERGLASS (FG) 1203 PLANK and securely hold the plank in position.

Item	Part Number
3" x 2" x 1/4" FRP Flat Plate	FFS040.0548
2" x 2" x 1/4" FRP Flat Plate	FFS040.0549
1/4-20 x 1-1/2" long Hex Bolt	FAB605
1/4-20 Hex Nut	FAB606
1/4" Flat Washer (2)	FAB220
1/4" Spring Lock Washer	FAB607

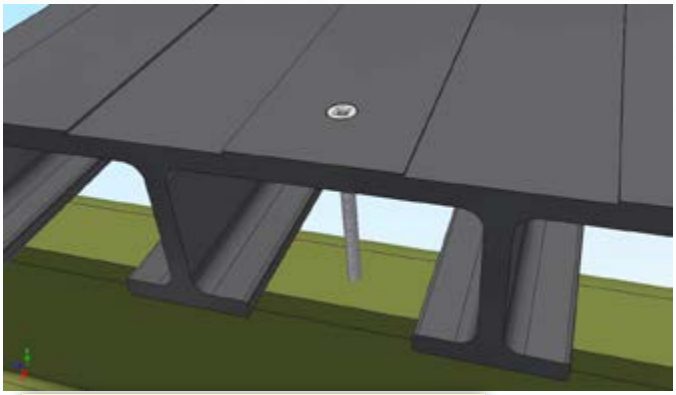
All bolts, nuts, screws and washers are 316SS.



Deck Screw With Washer

The Deck screw with washer connection permits the contractor to securely fasten the deck from the top surface. This connection technique is ideal for commercial applications in which the hardware does not create a visual issue and uplift loads are substantial.

Item	Part Number
5" x 0.32" Button Head Deck Screw (Ameri-Screw 5.0) - Zinc Clear Trivalent Coating	CLP049
2" O.D. Flat Washer - 316SS	CLP050



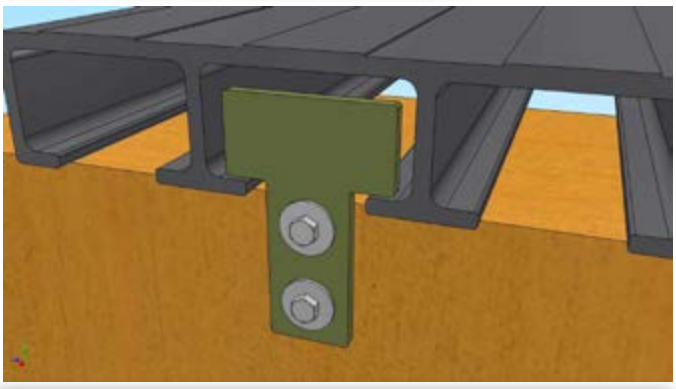
Countersunk Deck Screw

The countersunk method is ideal for quick installations with limited visual of the hardware. This method is ideal for pedestrian bridges and walkways in which uplift loads are minimal.

Note: CPI recommends two fasteners per plank per connection as a minimum.

Item	Part Number
#10 x 3.5" Deck Screw - Sq. Drive	FAB608

All bolts, nuts, screws and washers are 316SS.



FRP Clip Screwed to Sill Or Support Channel

The clip connection is ideal for blind connections in which you can install the decking with underside access.

Item	Part Number
1/4" FRP Plate	FFS040.0550
1/4" x 1.5" long Hex Head Lag Screw	FAB609
1/4" Flat Washer	FAB220

All bolts, nuts, screws and washers are 316SS.

SPECIFICATION

1. SCOPE

This specification depicts the minimum mechanical, physical and quality standards for the Fiberglass Reinforced Polymer (FRP) AMERIBOARD FIBERGLASS (FG) 1203 PLANK.

2. APPLICABLE DOCUMENTS

The latest revisions of the following documents in effect on the date of invitation apply to the extent specified herein, except in the case of specifically dated documents, in which case those revisions shall apply:

- ASTM D3917, Standard Specification for Dimensional Tolerance of Thermosetting Glass-Reinforced Plastic Pultruded Shapes
- ASTM D4385, Standard Practice for Classifying Visual Defects in Thermosetting Reinforced Plastic Pultruded Products
- ASTM D7290, Standard Practice for Evaluating Material Property Characteristic Values for Polymeric Composites for Civil Engineering Structural Applications

3. GENERAL

Pultruded FRP Planks shall be manufactured by a manufacturer that holds an ISO 9001:2015 certificate.

The FRP Planks shall be manufactured with commercial grade E or Ecr fiberglass and thermoset resins and shall meet or exceed the manufactures published properties.

The strength and stiffness ratings shall be established by full section testing to determine the apparent flexural and shear strength and the modulus of elasticity.

4. MINIMUM MECHANICAL AND PHYSICAL PROPERTIES

Minimum Full Section Modulus of Elasticity: 4.65 Msi
Characteristic Bending Strength per ASTM D7290: 68,800 psi (Full Section)
Characteristic In-Plane Shear Strength per ASTM D7290: 4,200 psi (Full Section)
Fire ratings when applicable: UL 94 (V0)and ASTM E84 Class A.

5. VISUAL REQUIREMENTS

The FRP Planks shall be manufactured and inspected per the visual standard ASTM D4385.

6. DIMENSIONAL REQUIREMENTS

The FRP Planks shall be manufactured and dimensionally inspected per the dimensional requirements as set forth in ASTM D3917.

7. WEATHERING UV PROTECTION

The FRP Planks shall be encompassed with a 10 mil thick thermoplastic polyester surface veil to protect the fiberglass reinforcements from fiber blooming.

8. QUALITY CONTROL

Manufacturer shall inspect the FRP Planks as detailed in their ISO 9001:2015 requirements.

9. MATERIAL CONNECTION

Sub-structure design engineering assistance available utilizing structural plastic lumber through American Plastic Lumber.

SIMPLE SUPPORTED BEAM-SINGLE SPAN EURO STANDARDS

AMERIBOARD FIBERGLASS (FG) 1203 PLANK (PART# GR112)

AMERIBOARD FG PLANK
12" Wide x 2.5" High
I, IFR, VFR Series

Imperial

E_b = 4.50 Msi | G_b = 0.18 Msi | Characteristic longitudinal compressive strength (F_L^c) = 65,000 psi

I_x =6.576 in^4/ft | S_x = 4.22 in^3/ft | Characteristic in-plane shear strength (F_{LT}^v) = 4,000 psi

A_w = 2.8 in^2/ft | Weight = 6.14 psf | Solid Top Decking

		Allowable Concentrated Load Tables (lbf per load point)							Allowable Uniform Load Tables (lb/ft^2)					
		L/D Ratios			Deflection (in)				L/D Ratios			Deflection (in)		
Span (in)	Load Condition	180	240	360	0.25	0.375	Max. Service Load	Span (in)	180	240	360	0.25	0.375	Max. Service Load
30	**3pt**	4918	3688	2459	7377	11065	738	**35**	3451	2588	1725	5176	7764	2240
36	**3pt**	3944	2958	1972	4931	7396	738	**36**	2263	1697	1132	2829	4243	1867
48	**4pt**	2459	1845	1230	2306	3459	738	**48**	1101	826	550	1032	1548	1400
60	**4pt**	1373	1030	687	1030	1545	738	**60**	606	455	303	455	682	1120
72	**5pt**	765	573	382	478	717	738	**72**	366	275	183	229	343	933
84	**5pt**	502	376	251	269	403	738	**84**	237	178	118	127	190	800

Metric

E_b = 31.03 Gpa | G_b = 1.26 Gpa | Characteristic longitudinal compressive strength (F_L^c) = 448 Mpa

I_x = 8.98E-6 m^4/m | S_x = 2.27-4 m^3/m | Characteristic in-plane shear strength (F_{LT}^v) = 27.6 Mpa

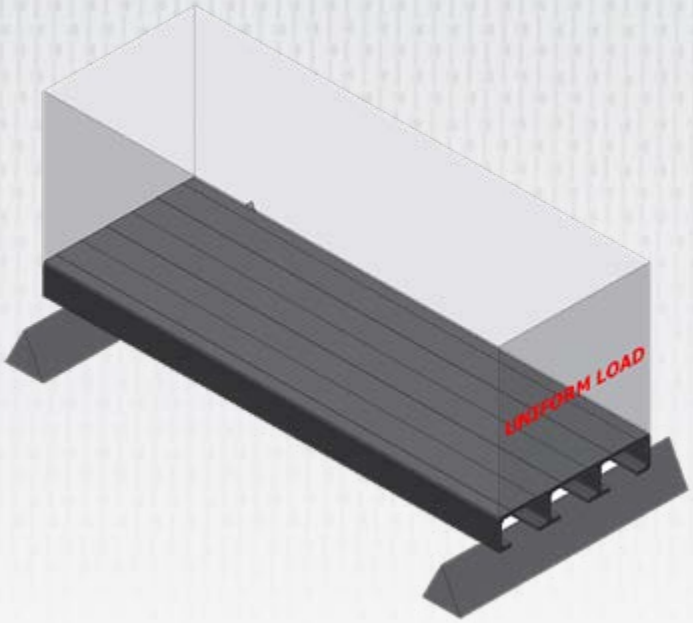
A_w = 5.93E-3 m^2/m | Weight = 30.0 kg/m^2 | Solid Top Decking

		Allowable Concentrated Load Tables (kN per load point)							Allowable Uniform Load Tables (kN/m^2)					
		L/D Ratios			Deflection (mm)				L/D Ratios			Deflection (mm)		
Span (m)	Load Condition	180	240	360	6	10	Max. Service Load	Span (m)	180	240	360	6	10	Max. Service Load
0.75	**3pt**	73.1	54.8	36.5	105.2	175.3	3.3	**0.75**	171.1	128.4	85.6	246.4	410.7	109.0
1.00	**3pt**	51.1	38.3	25.5	55.2	91.9	3.3	**1.00**	87.2	65.4	43.6	94.1	156.9	81.7
1.25	**4pt**	33.5	25.1	16.8	28.9	48.2	3.3	**1.25**	49.4	37.0	24.7	42.7	71.1	65.4
1.50	**4pt**	20.8	15.6	10.4	15.0	25.0	3.3	**1.50**	30.3	22.7	15.2	21.8	36.4	54.5
1.75	**5pt**	12.7	9.5	6.3	7.8	13.1	3.3	**1.75**	19.8	14.9	9.9	12.2	20.4	46.7
2.00	**5pt**	8.7	6.5	4.3	4.7	7.8	3.3	**2.00**	13.6	10.2	6.8	7.4	12.3	40.9

GR112 Stairs

Leading Edge Nose Reinforcement

TYPICAL LOAD SCENARIO DEPICTED IN LOAD CHARTS



Uniform load in lbs/ft^2 or kN/m^2 equally distributed over a single span deck.

STEP WITH SUPPORTS 47.2" (1200mm)

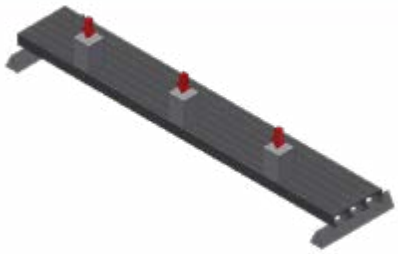
Load scenario for stair treads with span up to 47.2" (1200mm)

STEP WITH SUPPORTS 63" (1600mm)

Load scenario for stair treads with span > 47.2" (1200mm) up to 63" (1600mm)

STEP WITH SUPPORTS 78.7" (2000mm)

Load scenario for stair treads with span > 63" (1600mm) up to 78.7" (2000mm)



The "Load Condition" column is representative of the three loading scenarios depicted above. Each imposed load is spread over a 3.9" x 3.9" (100mm x 100mm) area on the treads leading edge. Spans up to 78.7" (2000mm) are loaded at the center of the span. Treads spanning longer than 47.2" (1200mm) have test loads applied at 23.6" (600mm)centers with loads positioned symmetrically above the center of the span.

DESIGN NOTES

DESIGN NOTES

Photos Courtesy of American Plastic Lumber

214 Industrial Lane, Alum Bank, PA 15521
Phone 814.839.4186 • Fax 814.839.4276 • Toll Free 888.CPI.PULL
www.creativepultrusions.com

CREATIVE PULTRUSIONS

American Plastic Lumber

P.O. Box 514 | Shingle Springs, CA 95682
Phone: 877.677.7701 | Fax: 530.677-6718 | Email: sales@aplinc.us
american-plasticlumber.com

PLEASE SCAN WITH PHONE