

Instruction Manual

Thank you for purchasing our product.

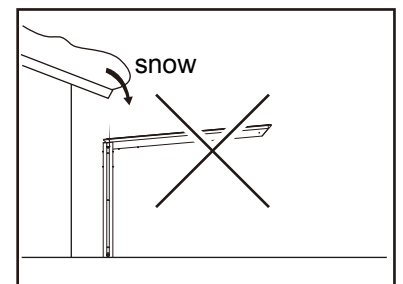
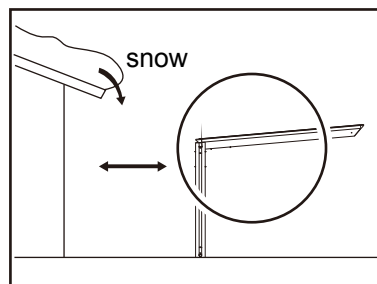
Please read this instruction manual carefully before installation to use the product for a long time.

- Carport is simple building just for car. Do not use it for other purpose
- Installation is your responsibility. We recommend you to consult a professional to ensure proper installation. Installation by a person without expertise may cause defects.

Precautions on Installation

Because improper handling of aluminum products during installation may cause abnormal corrosion, resulting in unexpected troubles, please pay attention to the following points.

1. Using sea sand for making mortar may cause corrosion due to its high salt content. Please avoid use of sea sand or wash it thoroughly before using it at mortar.
2. Make it sure not to attach mortar or concrete extract on the surface and inside of the aluminum products during construction.
3. Mortar or concrete which adheres to an aluminum product during installation must be removed quickly. Take extreme care when handling the product because scratches on the surface may cause corrosion.
4. Avoid contact of aluminum products with dissimilar metals such as copper plate and lath. If their contact is inevitable, cover the surface with a plastic tape or insulate it with paint, etc.
5. When adhesive bonds or chemicals which may cause corrosion are used for installation, avoid contact of them with aluminum products, or completely cure the portions where contact may occur.
6. The foundation drawing indicates the depth of embedding of the product. Pay sufficient attention to the amount (volume) of the foundation concrete when embedding the product in a weak ground. When the product is to be used in cold districts where frost heave is likely to occur, place foundation to the frost heave line or lower.
7. When a carport is to be installed on an inclined ground, secure sufficient embedding depth of the posts at the lower places of the ground.
8. Please confirm that the product fits the climate condition (wind, snow, etc.) at the installation site.
9. Do not install the product in a place where the thunderbolts lash a product directly in order to prevent damage.
10. Avoid installation of the product in areas where strong winds blow, especially on cliff tops, on the rooftop, or on the pathway of the wind.
11. Avoid installation of the product at places with large vertical difference such as cliff edge. In windy areas, install the product in such a direction that it may not be fluttered by wind. This product should be installed only on the ground. If the product is installed on a high place above the second floor, the product may be damaged by strong wind.
12. Constructor must work by wearing the working clothes and protective equipment properly when constructing carport.
13. Please put items or equipment in order, and ensure the security especially collapse and falling down while working in a high place and intensity of illumination by light in construction site.
14. Please make sure the security by each other, and check the operator's health and implement the health management.
15. In case of an accident, rescue the people immediately.
16. To remove water from the post, make a weep hole ($\phi 6$) after embedding of the post. Without the hole, moisture in the post may be expanded if frozen, resulting in damage to the post.
17. Please check again after completion of the installation work if the screws used for the work are tighten up well.
18. Do not modify or remodel the product.



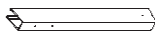
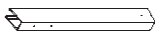
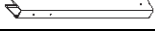
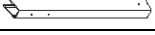
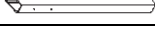
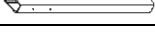
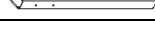
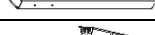
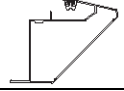
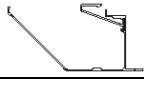
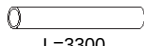
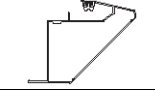
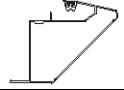
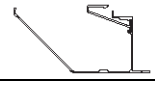
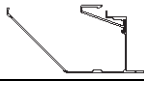
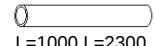
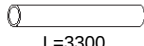
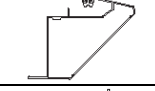
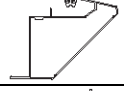
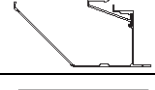
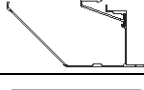
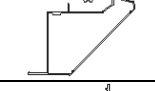
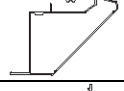
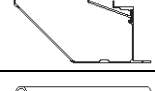
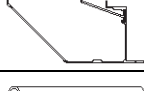
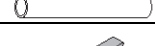
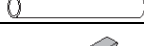
Pre-installation Preparation

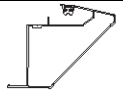
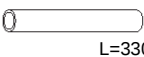
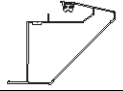
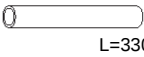
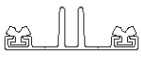
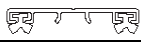
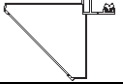
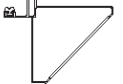
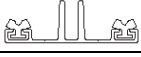
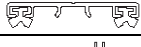
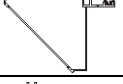
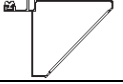
The following items are packed in each carton case. Please check the numbers of packages and parts of each model.

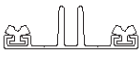
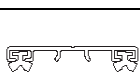
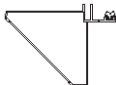
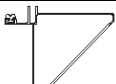
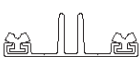
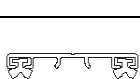
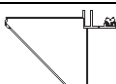
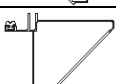
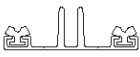
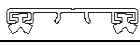
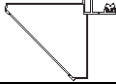
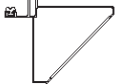
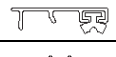
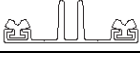
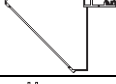
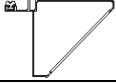
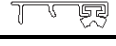
■ PACKAGE CONTENTS

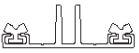
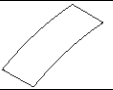
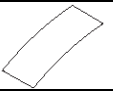
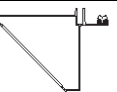
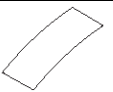
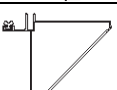
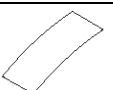
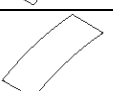
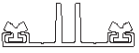
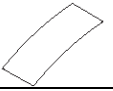
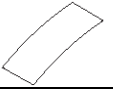
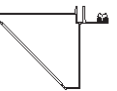
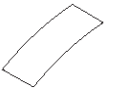
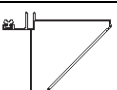
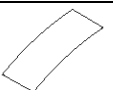
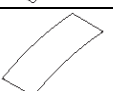
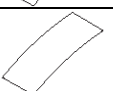
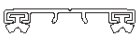
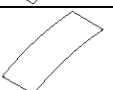
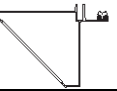
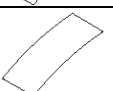
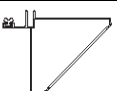
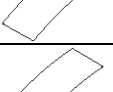
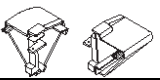
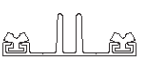
		Models	Package Nos.														Total	
			Members					Roofing										
								Heat blocking polycarbonate plate			Heat absorbing polycarbonate plate			Polycarbonate plate				
Basic unit	Standard height	SMP-(P)<K>[B]2125	1	11	16	25	203	101	P75			K75			B75			7 packages
		SMP-(P)<K>[B]2150	1	11	17	26	203	101	P75	P75		K75	K75		B75	B75		8 packages
		SMP-(P)<K>[B]2156	1	11	18	27	203	101	P75	P75	P76	K75	K75	K76	B75	B75	B76	9 packages
		SMP-(P)<K>[B]2550	2	12	19	28	201	101	P71	P71		K71	K71		B71	B71		8 packages
		SMP-(P)<K>[B]2556	2	12	20	29	201	101	P71	P71	P72	K71	K71	K72	B71	B71	B72	9 packages
		SMP-(P)<K>[B]2850	3	13	21	30	201	101	P73	P73		K73	K73		B73	B73		8 packages
		SMP-(P)<K>[B]2856	4	14	22	31	201	101	P73	P73	P74	K73	K73	K74	B73	B73	B74	9 packages
		SMP-(P)<K>[B]3150	5	15	23	32	201	101	P79	P79		K79	K79		B79	B79		8 packages
		SMP-(P)<K>[B]3156	5	15	24	33	201	101	P79	P79	P80	K79	K79	K80	B79	B79	B80	9 packages
	Extended height	SMPE-(P)<K>[B]2125	6	11	16	25	203	101	P75			K75			B75			7 packages
		SMPE-(P)<K>[B]2150	6	11	17	26	203	101	P75	P75		K75	K75		B75	B75		8 packages
		SMPE-(P)<K>[B]2156	6	11	18	27	203	101	P75	P75	P76	K75	K75	K76	B75	B75	B76	9 packages
		SMPE-(P)<K>[B]2550	7	12	19	28	201	101	P71	P71		K71	K71		B71	B71		8 packages
		SMPE-(P)<K>[B]2556	7	12	20	29	201	101	P71	P71	P72	K71	K71	K72	B71	B71	B72	9 packages
		SMPE-(P)<K>[B]2850	8	13	21	30	201	101	P73	P73		K73	K73		B73	B73		8 packages
		SMPE-(P)<K>[B]2856	9	14	22	31	201	101	P73	P73	P74	K73	K73	K74	B73	B73	B74	9 packages
		SMPE-(P)<K>[B]3150	10	15	23	32	201	101	P79	P79		K79	K79		B79	B79		8 packages
		SMPE-(P)<K>[B]3156	10	15	24	33	201	101	P79	P79	P80	K79	K79	K80	B79	B79	B80	9 packages
Longitudinal multi-units	Standard height	LSMP-(P)<K>[B]2150	1	11	17	34	203	104	P75	P75		K75	K75		B75	B75		8 packages
		LSMP-(P)<K>[B]2156	1	11	18	35	203	104	P75	P75	P76	K75	K75	K76	B75	B75	B76	9 packages
		LSMP-(P)<K>[B]2550	2	12	19	36	201	104	P71	P71		K71	K71		B71	B71		8 packages
		LSMP-(P)<K>[B]2556	2	12	20	37	201	104	P71	P71	P72	K71	K71	K72	B71	B71	B72	9 packages
		LSMP-(P)<K>[B]2850	3	13	21	38	201	104	P73	P73		K73	K73		B73	B73		8 packages
		LSMP-(P)<K>[B]2856	4	14	22	39	201	104	P73	P73	P74	K73	K73	K74	B73	B73	B74	9 packages
		LSMP-(P)<K>[B]3150	5	15	23	40	201	104	P79	P79		K79	K79		B79	B79		8 packages
		LSMP-(P)<K>[B]3156	5	15	24	41	201	104	P79	P79	P80	K79	K79	K80	B79	B79	B80	9 packages
	Extended height	LSMPE-(P)<K>[B]2150	6	11	17	34	203	104	P75	P75		K75	K75		B75	B75		8 packages
		LSMPE-(P)<K>[B]2156	6	11	18	35	203	104	P75	P75	P76	K75	K75	K76	B75	B75	B76	9 packages
		LSMPE-(P)<K>[B]2550	7	12	19	36	201	104	P71	P71		K71	K71		B71	B71		8 packages
		LSMPE-(P)<K>[B]2556	7	12	20	37	201	104	P71	P71	P72	K71	K71	K72	B71	B71	B72	9 packages
		LSMPE-(P)<K>[B]2850	8	13	21	38	201	104	P73	P73		K73	K73		B73	B73		8 packages
		LSMPE-(P)<K>[B]2856	9	14	22	39	201	104	P73	P73	P74	K73	K73	K74	B73	B73	B74	9 packages
		LSMPE-(P)<K>[B]3150	10	15	23	40	201	104	P79	P79		K79	K79		B79	B79		8 packages
		LSMPE-(P)<K>[B]3156	10	15	24	41	201	104	P79	P79	P80	K79	K79	K80	B79	B79	B80	9 packages

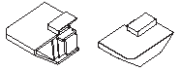
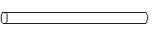
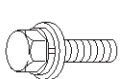
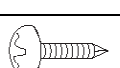
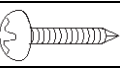
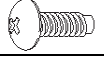
Parts List

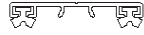
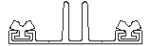
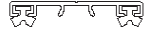
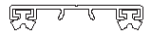
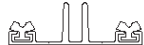
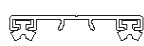
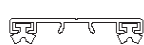
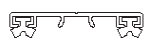
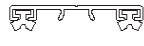
Package Nos.	Component names	Part names	Shape	Q'TY	Package Nos.	Component names	Part names	Shape	Q'TY
K1	Post (A) 2 pieces	Post (A)		2	K6	Extended post (A) 2 pieces	Extended post (A)		2
K2	Post (B) 2 pieces	Post (B)		2	K7	Extended post (B) 2 pieces	Extended post (B)		2
K3	Post (C) 2 pieces	Post (C)		2	K8	Extended post (C) 2 pieces	Extended post (C)		2
K4	Post (D) 2 pieces	Post (D)		2	K9	Extended post (D) 2 pieces	Extended post (D)		2
K5	Post (E) 2 pieces	Post (E)		2	K10	Extended post (E) 2 pieces	Extended post (E)		2
K11	Rising beam (A) 2 pieces	Rising beam (A)		2	K19	Depth set (2550)	Front frame (50)		1
K12	Rising beam (B) 2 pieces	Rising beam (B)		2			Roof purline (50)		3
K13	Rising beam (C) 2 pieces	Rising beam (C)		2			Rear frame (50)		1
K14	Rising beam (D) 2 pieces	Rising beam (D)		2			Water pipe	 L=3300	1
K15	Rising beam (E) 2 pieces	Rising beam (E)		2			Roof cushioning		36
K16	Depth set (2125)	Front frame (25)		1	K20	Depth set (2556)	Front frame (56)		1
		Roof purline (25)		2			Roof purline (56)		3
		Rear frame (25)		1			Rear frame (56)		1
		Water pipe	 L=1000,L=2300	1 of each			Water pipe	 L=3300	1
		Roof cushioning		36			Roof cushioning		36
K17	Depth set (2150)	Front frame (50)		1	K21	Depth set (2850)	Front frame (50)		1
		Roof purline (50)		2			Roof purline (50)		3
		Rear frame (50)		1			Rear frame (50)		1
		Water pipe	 L=3300	1			Water pipe	 L=3300	1
		Roof cushioning		36			Roof cushioning		36
K18	Depth set (2156)	Front frame (56)		1	K22	Depth set (2856)	Front frame (56)		1
		Roof purline (56)		2			Roof purline (56)		3
		Rear frame (56)		1			Rear frame (56)		1
		Water pipe		1			Water pipe		1
		Roof cushioning		36			Roof cushioning		36

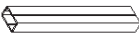
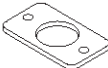
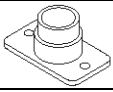
Package Nos.	Component names	Part names	Shape	Q'TY
K23	Depth set (3150)	Front frame (50)		1
		Roof purline (50)		4
		Rear frame (50)		1
		Water pipe	 L=3300	1
		Roof cushioning		36
K24	Depth set (3156)	Front frame (56)		1
		Roof purline (56)		4
		Rear frame (56)		1
		Water pipe	 L=3300	1
		Roof cushioning		36
K25	Depth set (2125)	Collar beam (21)		3
		Roof holder (21)		3
		Side frame L (21)		1
		Side frame R (21)		1
		End roof holder (21)		2
K26	Depth set (2150)	Collar beam (21)		7
		Roof holder (21)		7
		Side frame L (21)		1
		Side frame R (21)		1
		End roof holder (21)		2

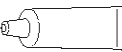
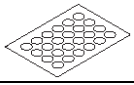
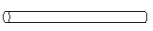
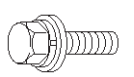
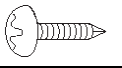
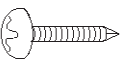
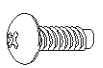
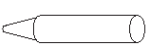
Package Nos.	Component names	Part names	Shape	Q'TY
K27	Frontage set (2156)	Collar beam (21)		8
		Roof holder (21)		8
		Side frame L (21)		1
		Side frame R (21)		1
		End roof holder (21)		2
K28	Frontage set (2550)	Collar beam (25)		7
		Roof holder (25)		7
		Side frame L (25)		1
		Side frame R (25)		1
		End roof holder (25)		2
K29	Frontage set (2556)	Collar beam (25)		8
		Roof holder (25)		8
		Side frame L (25)		1
		Side frame R (25)		1
		End roof holder (25)		2
K30	Frontage set (2850)	Collar beam (28)		7
		Roof holder (28)		7
		Side frame L (28)		1
		Side frame R (28)		1
		End roof holder (28)		2

Package Nos.	Component names	Part names	Shape	Q'TY	Package Nos.	Component names	Part names	Shape	Q'TY
K31	Frontage set (2856)	Collar beam (28)		8	KP74	Roofing (27) 1 sheet Heat blocking polycarbonate plate	Roofing (27) Heat blocking polycarbonate plate		1
		Roof holder (28)		8	KP75	Roofing (20) 4 sheets Heat blocking polycarbonate plate	Roofing (20) Heat blocking polycarbonate plate		4
		Side frame L (28)		1	KP76	Roofing (20) 1 sheet Heat blocking polycarbonate plate	Roofing (20) Heat blocking polycarbonate plate		1
		Side frame R (28)		1	KP79	Roofing (30) 4 sheets Heat blocking polycarbonate plate	Roofing (30) Heat blocking polycarbonate plate		4
		End roof holder (28)		2	KP80	Roofing (30) 1 sheet Heat blocking polycarbonate plate	Roofing (30) Heat blocking polycarbonate plate		1
K32	Frontage set (3150)	Collar beam (31)		7	KK71	Roofing (24) 4 sheets Heat blocking polycarbonate plate	Roofing (24) Heat blocking polycarbonate plate		4
		Roof holder (31)		7	KK72	Roofing (24) 1 sheet Heat blocking polycarbonate plate	Roofing (24) Heat blocking polycarbonate plate		1
		Side frame L (31)		1	KK73	Roofing (27) 4 sheets Heat blocking polycarbonate plate	Roofing (27) Heat blocking polycarbonate plate		4
		Side frame R (31)		1	KK74	Roofing (27) 1 sheet Heat blocking polycarbonate plate	Roofing (27) Heat blocking polycarbonate plate		1
		End roof holder (31)		2	KK75	Roofing (20) 4 sheets Heat blocking polycarbonate plate	Roofing (20) Heat blocking polycarbonate plate		4
K33	Frontage set (3156)	Collar beam (31)		8	KK76	Roofing (20) 1 sheet Heat blocking polycarbonate plate	Roofing (20) Heat blocking polycarbonate plate		1
		Roof holder (31)		8	KK79	Roofing (30) 4 sheets Heat blocking polycarbonate plate	Roofing (30) Heat blocking polycarbonate plate		4
		Side frame L (31)		1	KK80	Roofing (30) 1 sheet Heat blocking polycarbonate plate	Roofing (30) Heat blocking polycarbonate plate		1
		Side frame R (31)		1	KB71	Roofing (24) 4 sheets Polycarbonate plate	Roofing (24) Polycarbonate plate		4
		End roof holder (31)		2	KB72	Roofing (24) 1 sheet Polycarbonate plate	Roofing (24) Polycarbonate plate		1
K201	Joint 2 pieces	Joint		2	KB73	Roofing (27) 4 sheets Polycarbonate plate	Roofing (27) Polycarbonate plate		4
K203	MW joint 2 pieces	MW joint		2	KB74	Roofing (27) 1 sheet Polycarbonate plate	Roofing (27) Polycarbonate plate		1
KP71	Roofing (24) 4 sheets Heat blocking polycarbonate plate	Roofing (24) Heat blocking polycarbonate plate		4	KB75	Roofing (20) 4 sheets Polycarbonate plate	Roofing (20) Polycarbonate plate		4
KP72	Roofing (24) 1 sheet Heat blocking polycarbonate plate	Roofing (24) Heat blocking polycarbonate plate		1	KB76	Roofing (20) 1 sheet Polycarbonate plate	Roofing (20) Polycarbonate plate		1
KP73	Roofing (27) 4 sheets Heat blocking polycarbonate plate	Roofing (27) Heat blocking polycarbonate plate		4	KB79	Roofing (30) 4 sheets Polycarbonate plate	Roofing (30) Polycarbonate plate		4
					KB80	Roofing (30) 1 sheet Polycarbonate plate	Roofing (30) Polycarbonate plate		1
K101	Basic Parts Box (25*50*56)	Front frame corner cap L/R		1 of each	K34	Multi-unit frontage set (2150)	Collar beam (21)		8

Package Nos.	Component names	Part names	Shape	Q'TY
		Rear frame corner cap L/R		1 of each
		Ascend beam cap		2
		Post cap		2
		Hole stopper		1
		Packing		2
		Attachment		1
		Elbow		2
		Drain elbow		1
		Pipe Holder A		3
		Pipe Holder B		3
		Adhesive		1
		Blindfold seal		1
		Anchor stick (φ9)		2
		Hexagonal bolt (with plain/spring washer) M8 × 25L		16
		Pan-head self-drill screw φ4×16L		105
		Pan-head self-drill screw φ4×19L		5
		Washer Head Screw φ5 × 12L		175
		Sealing material		1
		Instruction manual		1
		Notes		1

Package Nos.	Component names	Part names	Shape	Q'TY
		Roof holder (21)		8
K35	Multi-unit frontage set (2156)	Collar beam (21)		9
		Roof holder (21)		9
K36	Multi-unit frontage set (2550)	Collar beam (25)		8
		Roof holder (25)		8
K37	Multi-unit frontage set (2556)	Collar beam (25)		9
		Roof holder (25)		9
K38	Multi-unit frontage set (2850)	Collar beam (28)		8
		Roof holder (28)		8
K39	Multi-unit frontage set (2856)	Collar beam (28)		9
		Roof holder (28)		9
K40	Multi-unit frontage set (3150)	Collar beam (31)		8
		Roof holder (31)		8
K41	Multi-unit frontage set (3156)	Collar beam (31)		9
		Roof holder (31)		9

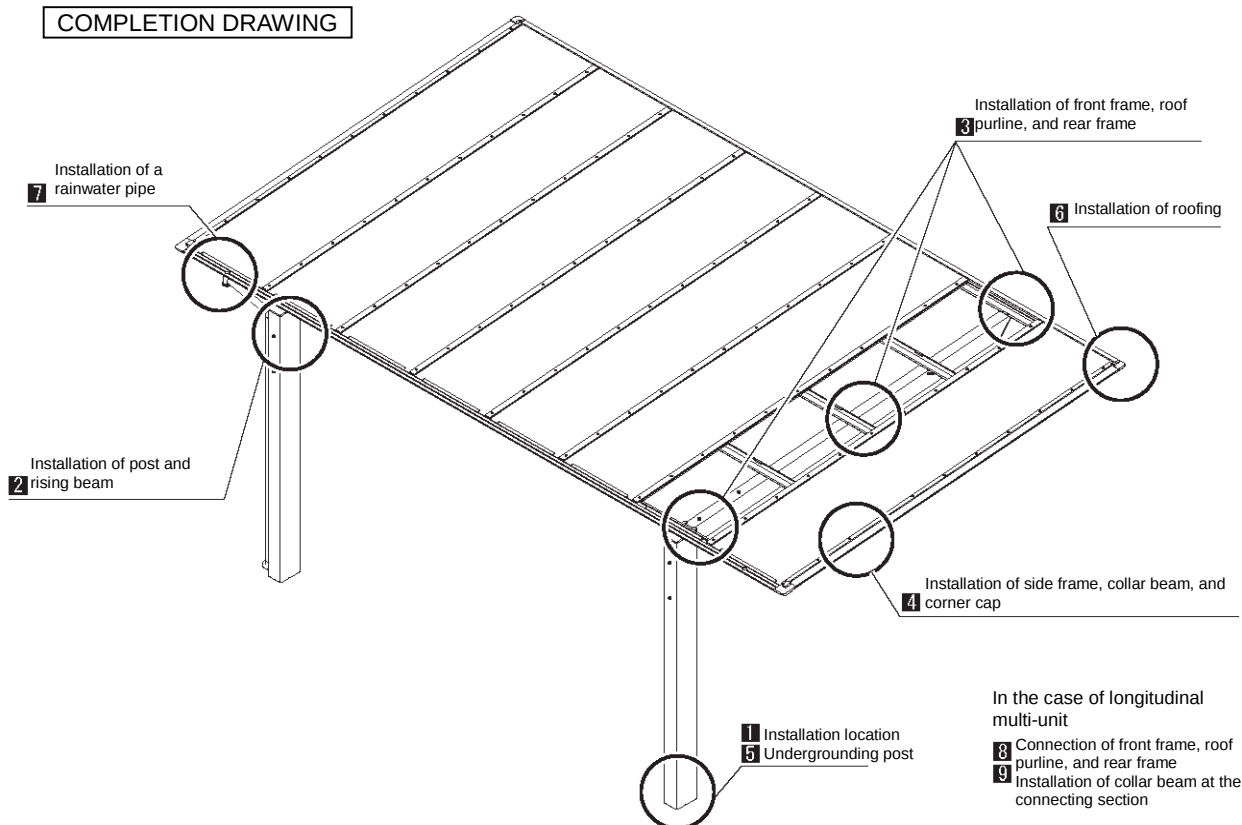
Package Nos.	Component names	Part names	Shape	Q'TY
K104	Longitudinal multi-unit parts box (50 · 56)	Front frame connecting material		1
		Roof purline connecting material		4
		Rear frame connecting material		1
		Ascend beam cap		2
		Post cap		2
		Hole stopper		1
		Packing		2
		Attachment		1
		Elbow		2
		Drain elbow		1

Package Nos.	Component names	Part names	Shape	Q'TY
K104	Longitudinal multi-unit parts box (50 · 56)	Pipe holder A		3
		Pipe Holder B		3
		Adhesive		1
		Blindfold seal		1
		Anchor stick (φ9)		2
		Hexagonal bolt (with plain/spring washer) M8 × 25L		16
		Pan-head self-drill screw φ4×16L		115
		Pan-head self-drill screw φ4×19L		5
		Washer head screw φ5×12L		175
		Sealing material		1

Building Process

- Install the product in the numerical order (**1** → **2** ... **7**):(In the case of longitudinal connection, refer to **8** and **9**.)

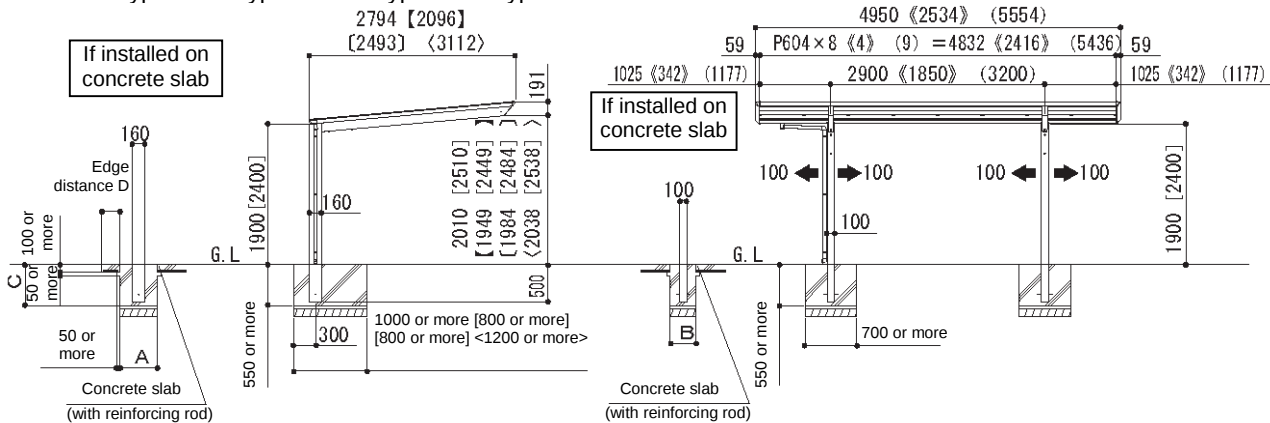
COMPLETION DRAWING



1 Installation location

Basic unit SET UP DRAWING

- 2125 type/2150 type/2156 type ■ 2550 type/2556 type
- 2850 type/ 2856 type ■ 3150 type/ 3156 type

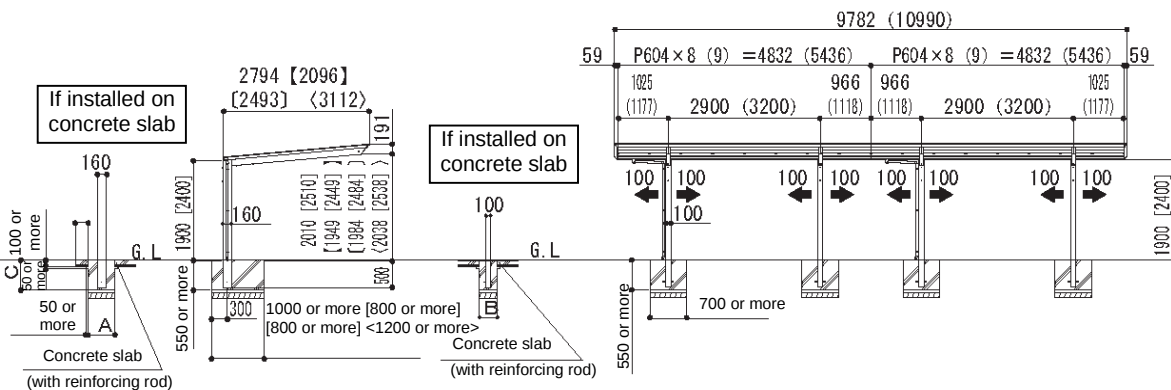


* The drawing shows SMP-2850 type. The dimensions shown in (), << >>, [], { }, < >, and [] are for depth 56 size, depth 25 size, frontage 21 size, frontage 25 size, frontage 31 size, and extended height.

* As for the depth 25 size, the water spout is located inside of the post.

Basic unit + Longitudinal multi-units Installation drawing

- 2150 type + Longitudinal multi-units 2150 ■ 2156 type + Longitudinal multi-units 2156 ■ 2550 type + Longitudinal multi-units 2550
- 2556 type + Longitudinal multi-units 2556 ■ 2650 type + Longitudinal multi-units 2850 ■ 3150 type + Longitudinal multi-units 3150



* The drawing shows the longitudinally connected structure of SMP-2850 and LSMP-2850. The dimensions shown in (), [], { }, < >, and [] are for depth 56 size, frontage 21 size, frontage 25 size, frontage 31 size, and extended height.

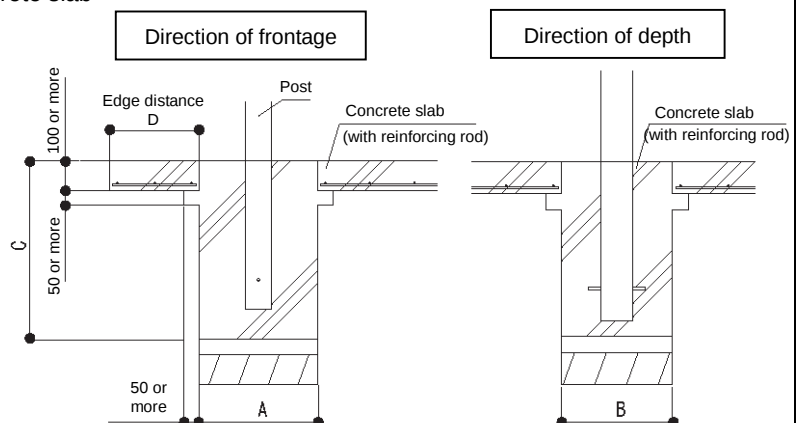
* In the case of the depth 25 size, the water spout is located inside of the post.

	Frontage	A	B	C	D
	21	500 or more	300 or more	550 or more	200 or more
	25	500 or more	300 or more	550 or more	200 or more
	28	500 or more	350 or more	550 or more	250 or more
	31	500 or more	450 or more	550 or more	300 or more

"Foundation dimensions for installing on a concrete slab"

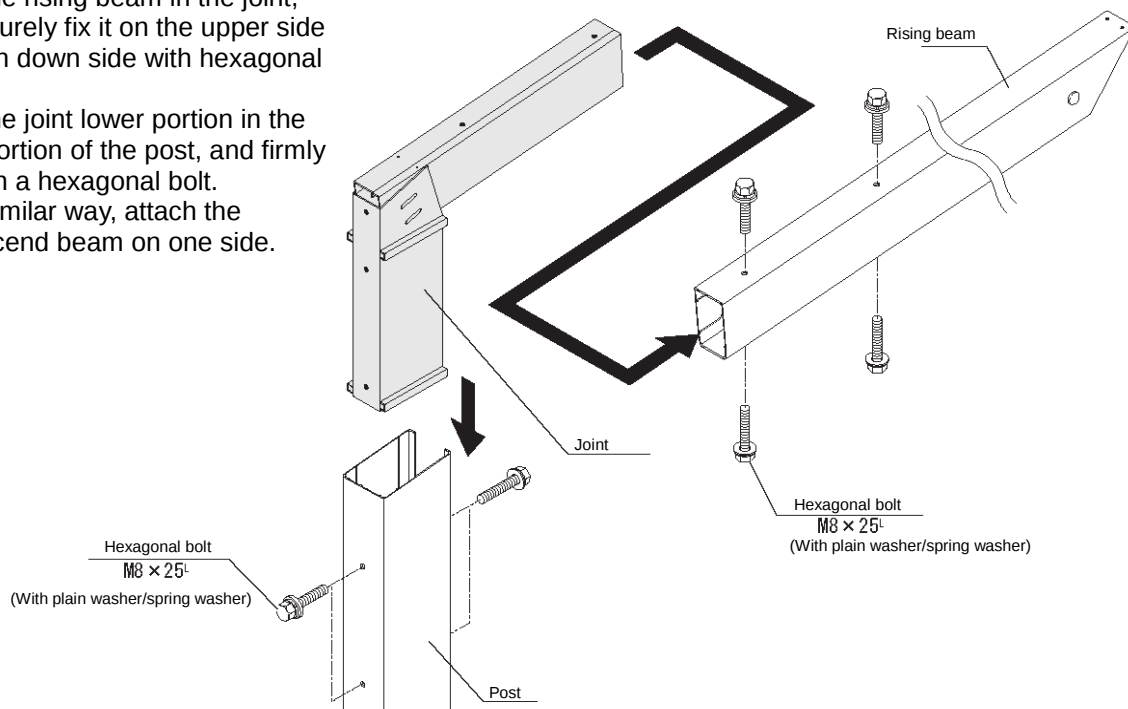
Obey the following installation requirements when installing on a concrete slab:

1. The concrete slab should be at least 100 mm in thickness.
2. The concrete slab should have reinforcing rods and welded wire mesh.
3. Projections of 50 mm × 50 mm or more are provided around the foundation in order to prevent it from coming up.
4. The distance between foundation edge and slab periphery (edge distance) should satisfy the specification or exceed it. (See the installation drawing)



2 Installation of posts and rising beams

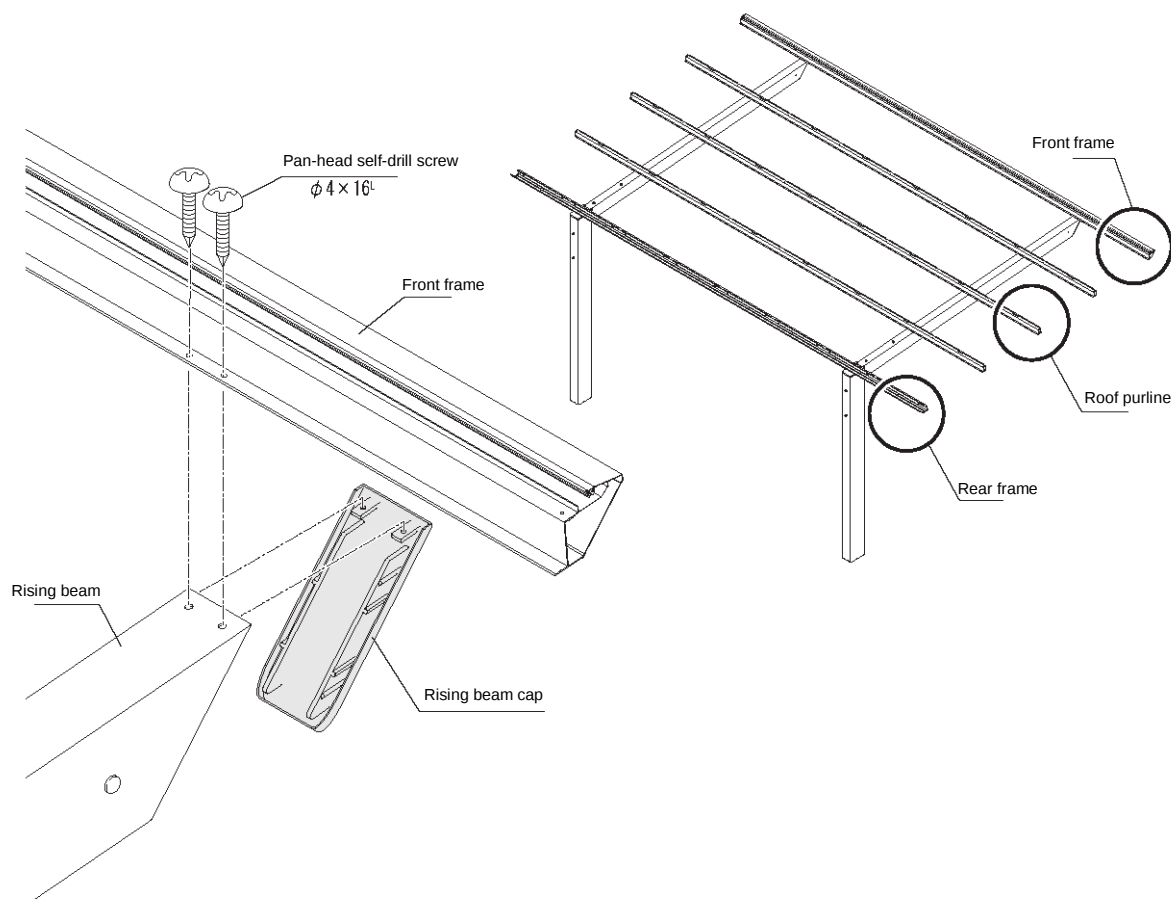
1. Insert the rising beam in the joint, and securely fix it on the upper side and then down side with hexagonal bolts.
2. Insert the joint lower portion in the upper portion of the post, and firmly fix it with a hexagonal bolt.
3. In the similar way, attach the post/ascend beam on one side.



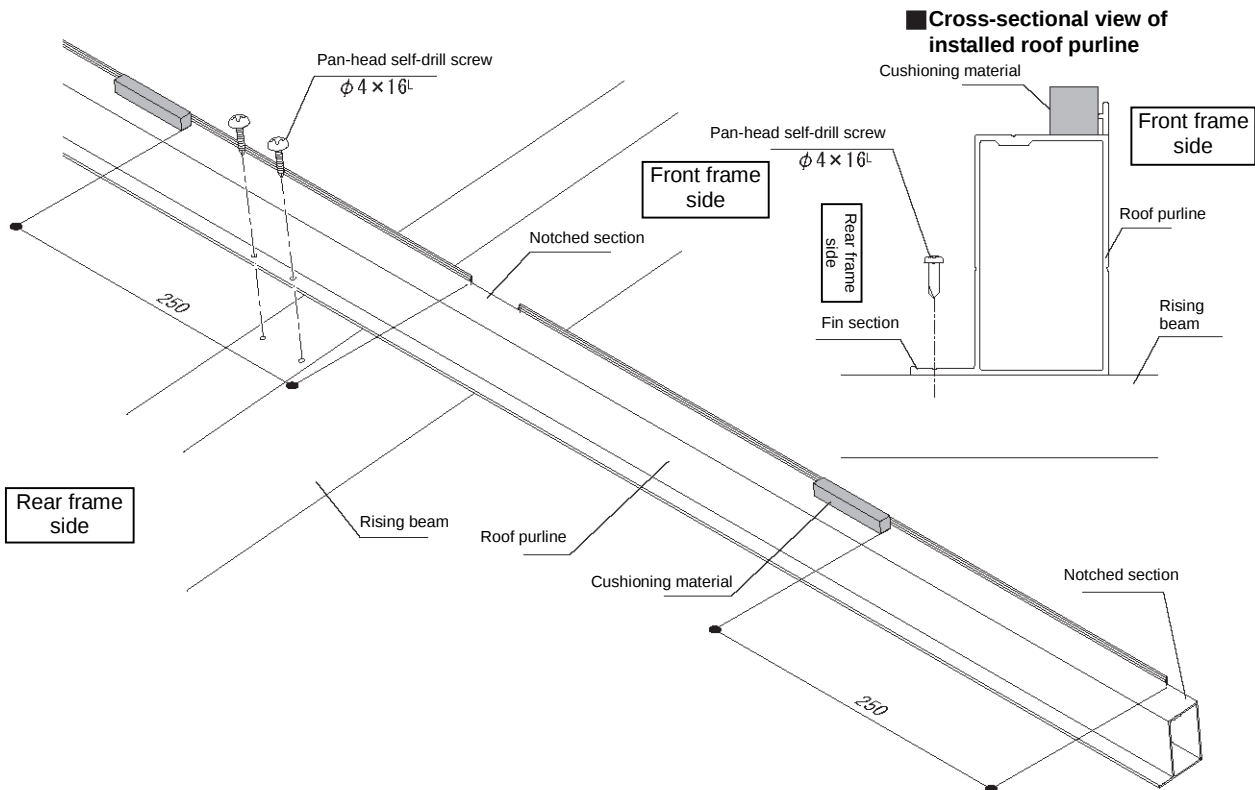
3 Installation of front frame, roof purline, and rear frame

1. Insert the ascend beam cap in the rising beam, and firmly fix the front frame to the front section of rising beam with pan-head self-drill screws.

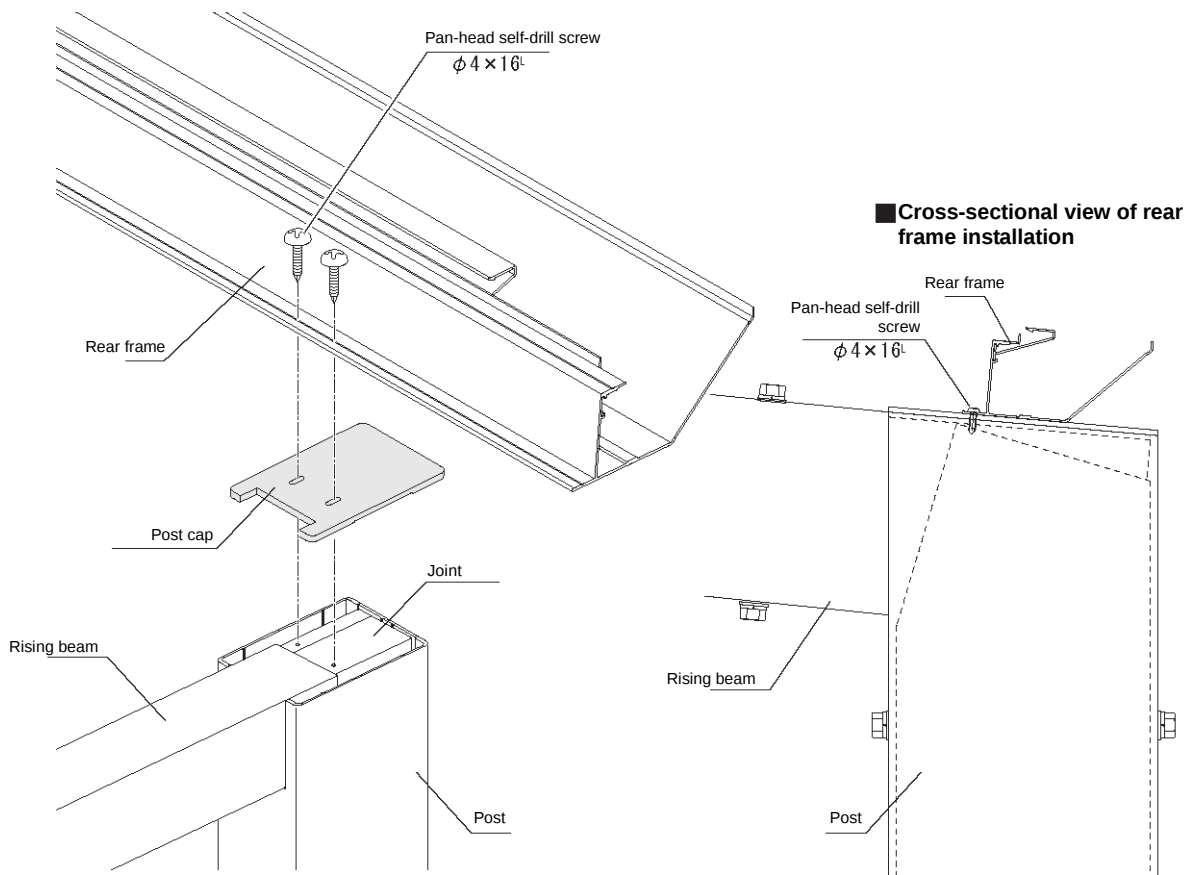
Note) Be sure to fix the front frame after inserting the ascend beam cap in the rising beam.



2. Attach cushioning to the location about 250 mm from the notched edge of the roof purline.
3. Firmly fix the fin section of the roof purline (surface to be installed) to the rising beam with pan-head self-drill screws.



4. Put the post cap over the joint, and firmly fix the rear frame to the joint with pan-head self-drill screws.
- Note) If the post is transferred, make a hole of $\phi 4.5$ in the front frame, roof purline, and rear frame which match the ascend beam. Attach the blindfold seal over the existing holes.



4 Installation of side frame, collar beam, and corner cap

1. Position the roof support in the center of the roofing.
2. Insert the front frame corner cap and the rear frame corner cap in the side frame.
3. Fix the side frame and collar beam to the front frame, roof purline, and rear frame with pan-head self-drill screws.
4. The locations where the side frame and collar beam are screwed with pan-head self-drill screws are shown in the cross-sectional view of installation. Do not tighten the screws at other locations.

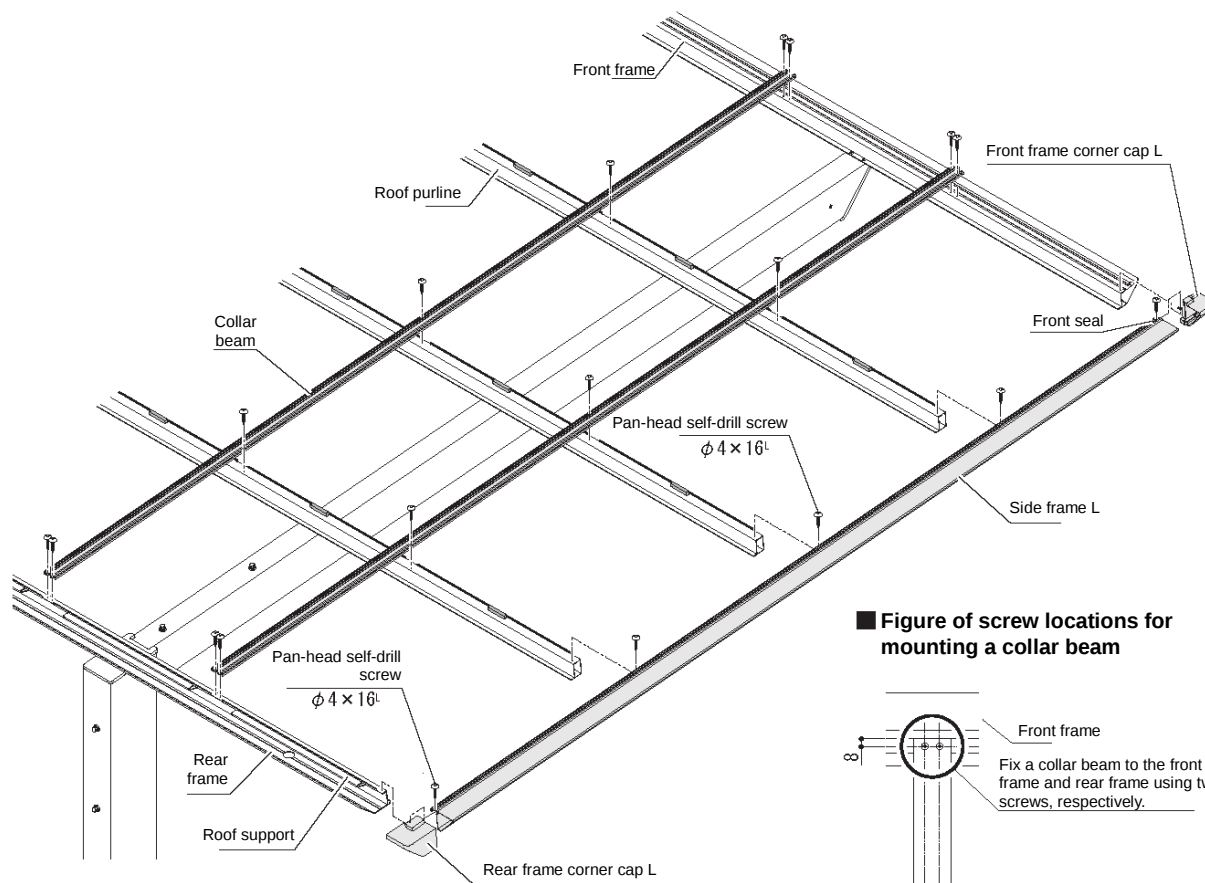
Note 1) The roof purline has no holes.

Note 2) The side frame has the predetermined right and left sides. Be sure to attach the front seal facing to the front frame side.

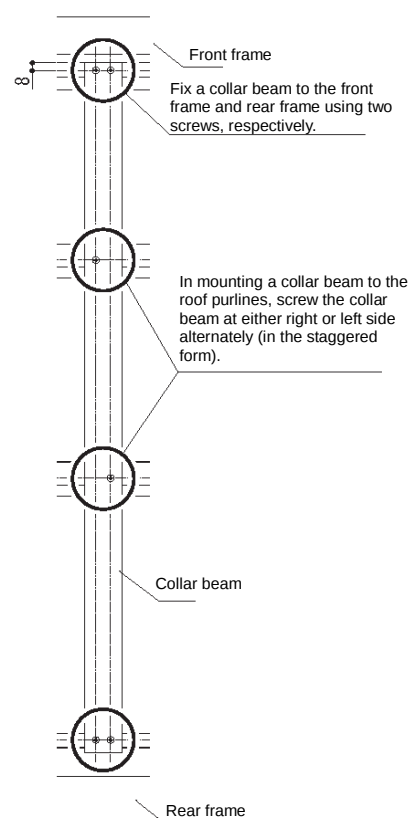
Note 3) The collar beam has the fixed front-rear direction. Be sure to attach the front seal facing to the front frame side.

Note 4) In mounting a collar beam to the roof purlines, screw the collar beam at either right or left side alternately (in the staggered form).

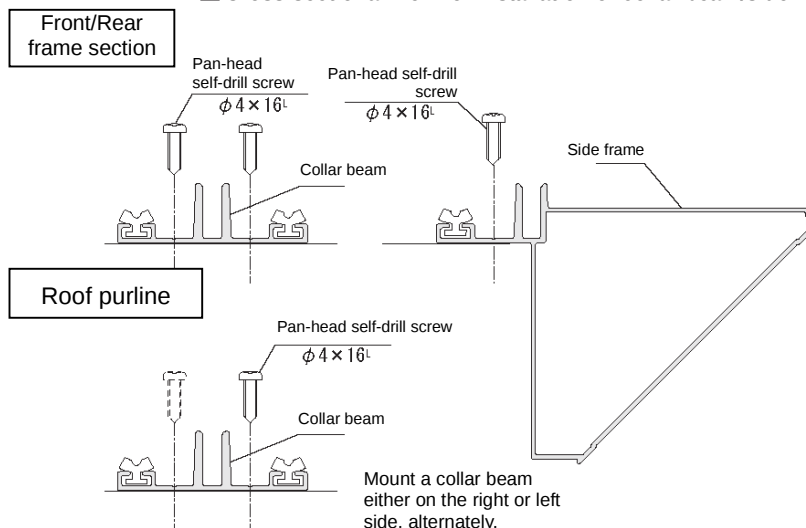
Note 5) The numbers of roof purlines are 2 pieces for frontage 21 size, 3 pieces for frontage 25/28 sizes, and 4 pieces for frontage 31 size.



■ Figure of screw locations for mounting a collar beam

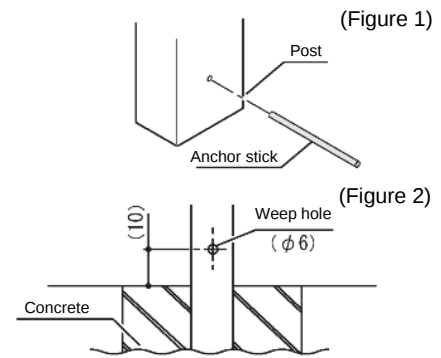


■ Cross-sectional view for installation of collar beam/side frame



5 Undergrounding post

1. Perform concrete construction after the main unit scaffold is completely constructed,
2. Perform precise positioning of the post foundation referring to the installation drawing of the installation location **1**.
3. Insert anchor sticks in the bottom of the posts. (Fig. 1)
4. Confirm that the distance, verticality, and parallelism of the posts, roof inclination, and diagonal dimension of the roof are correct.
5. Pour concrete.
6. Make a weep hole ($\phi 6$) in the post. (Fig. 2)



6 Installation of roofing

1. Remove the protection sheet for roofing, and insert roofing in the roof support on the front frame side. Then, set it up toward the rear frame side.
2. Push the roofing against the roof support of rear frame and completely insert it.
3. Push the roof holder against the front frame and mount it while holding the roofing down.
4. Seal the joint portion between the front frame and the roof holder.
5. Seal the joint portion between the rear frame corner cap and the rear frame.

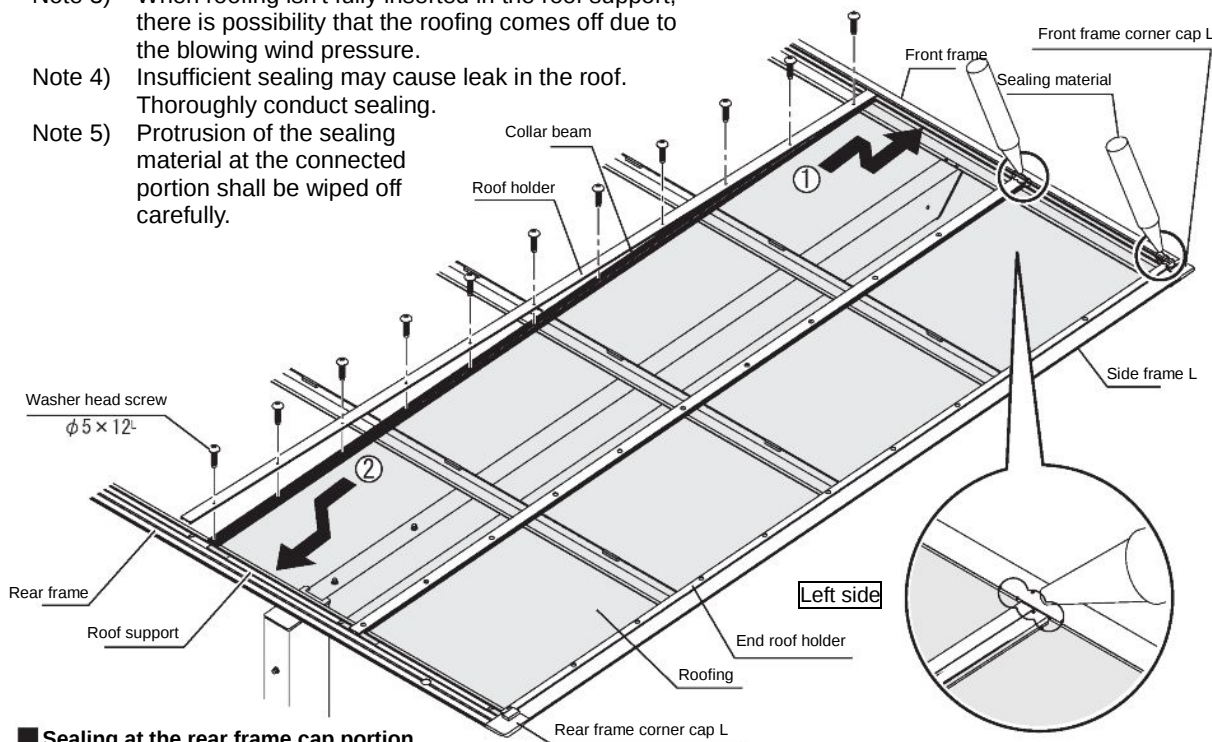
Note 1) Install roofing after checking for the surfaces of roofing, i.e., the surface to be exposed to sunlight (outside) and the surface not to be exposed to sunlight (inside).

Note 2) When heat absorbing polycarbonate (clear mat) is used, install roofing with the unlevel surface inside.

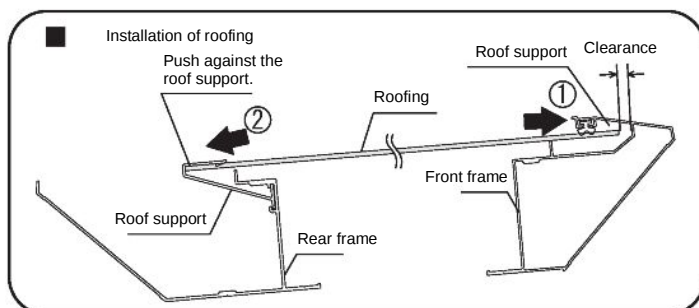
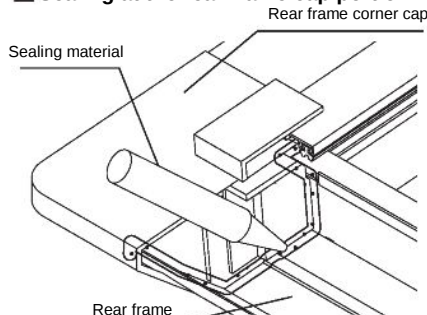
Note 3) When roofing isn't fully inserted in the roof support, there is possibility that the roofing comes off due to the blowing wind pressure.

Note 4) Insufficient sealing may cause leak in the roof. Thoroughly conduct sealing.

Note 5) Protrusion of the sealing material at the connected portion shall be wiped off carefully.

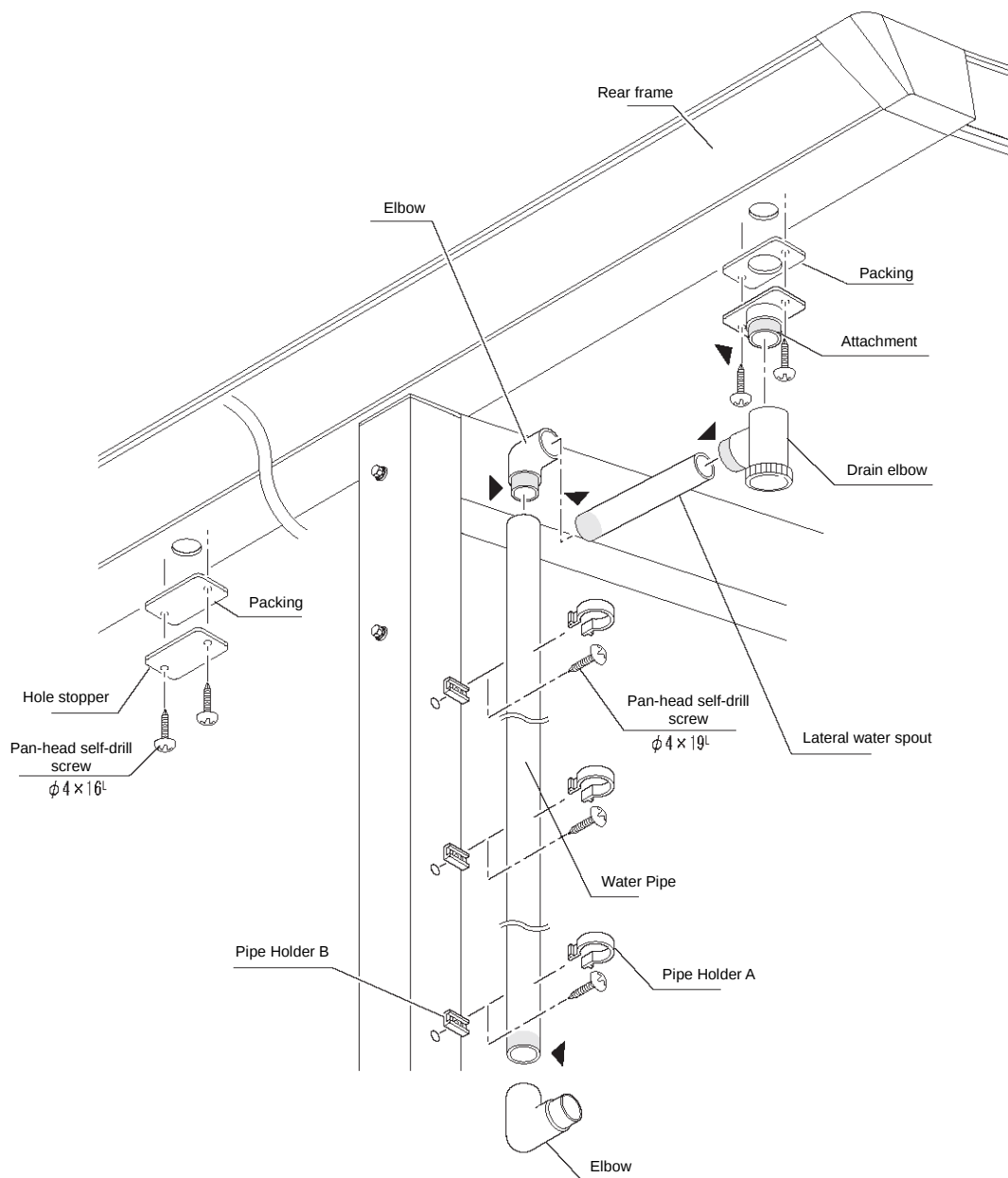


Sealing at the rear frame cap portion



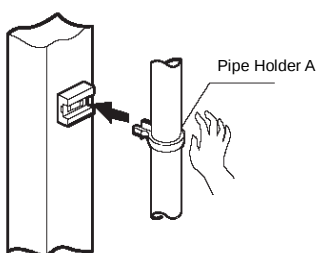
7 Installation of a rainwater pipe

1. Cut the water pipe into appropriate length pieces on site.
2. Attach the packing and attachment to the rear frame with pan-head self-drill screws.
3. Mount the pipe holders B to three points of the post with pan-head self-drill screws. Set the mounting location considering workability and draining location.
4. Set the pipe holders A around the water pipe, and set the water pipe by putting the pipe holders A in the pipe holders B and fixing it.
5. Apply adhesive onto the attachment, elbow, and lateral water spout, and connect them as shown in the drawing. (Portions indicated with the arrows) ▶
6. Close the holes other than those used for mounting the water pipe at the rear frame section with hole stoppers.



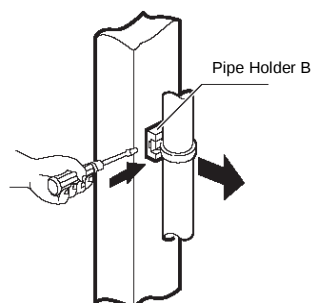
How to install pipe holders

Set a pipe holder A around the water pipe and push the pipe holder A into the pipe holder B.



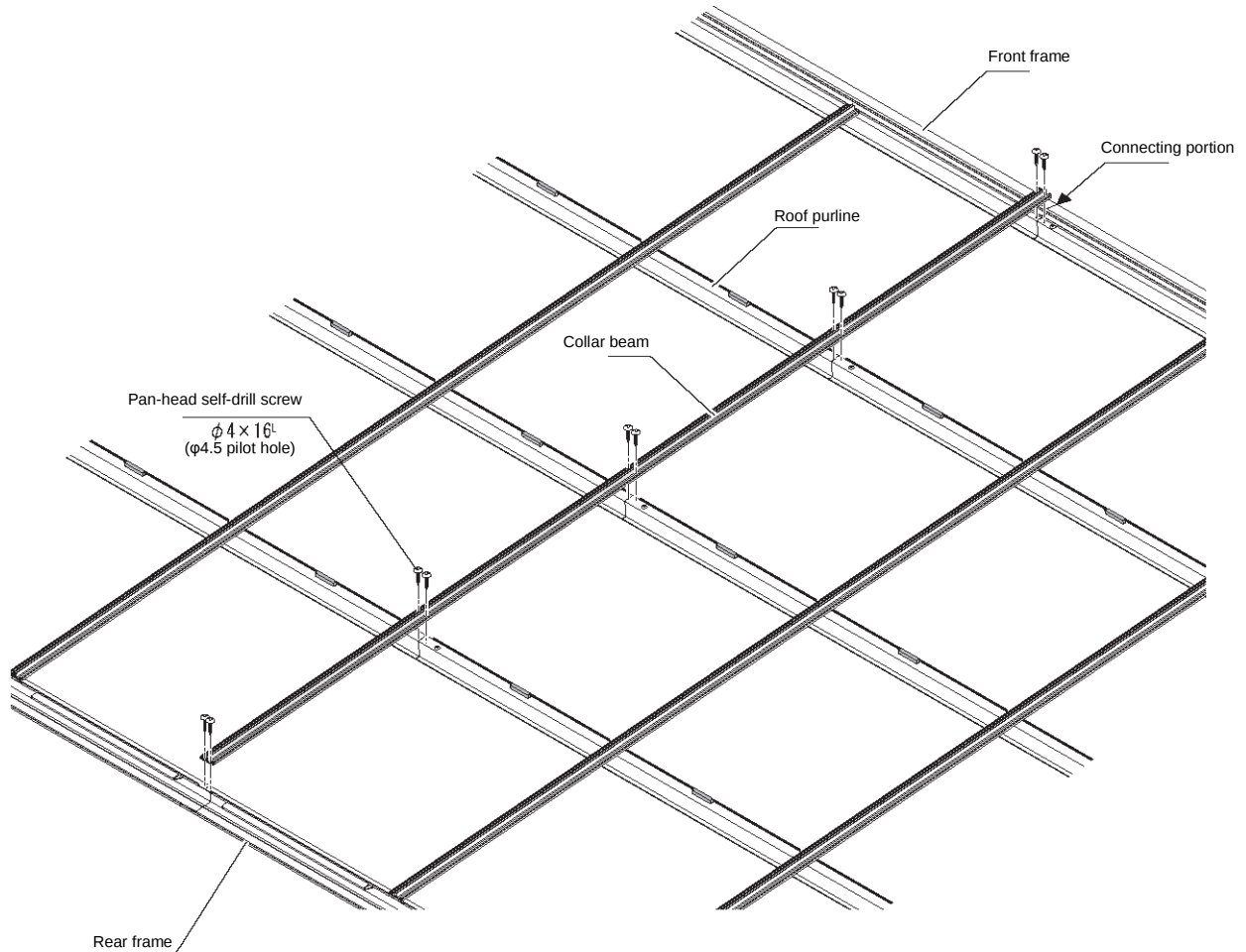
How to remove a pipe holder

Insert a flat-blade screwdriver in the void of the pipe holder B to remove the pipe holder A.

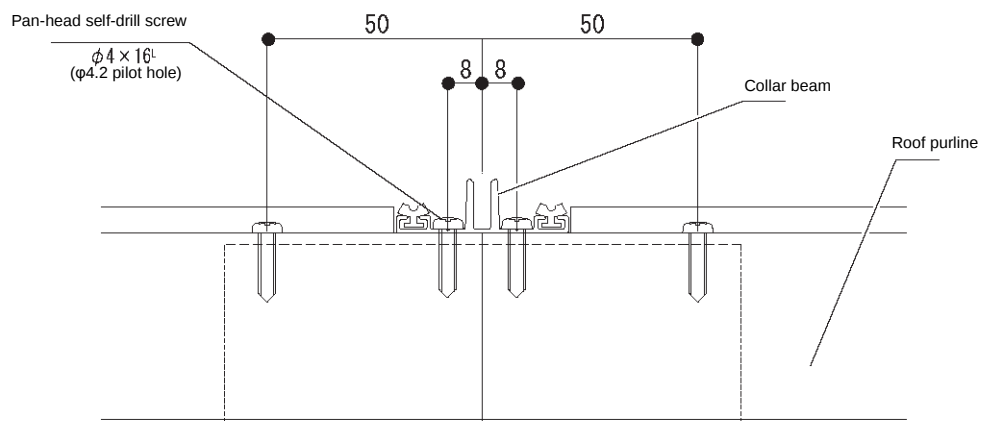


9 Installation of collar beam at the connecting section

1. Position the roof support in the center of the roofing.
2. Make holes of $\phi 4.2$ or less as shown in the figure because the collar beam (at the portions to be attached to the roof purline) has a hole only on one side.
3. Fix the collar beam to the front frame, roof purline, and rear frame with pan-head self-drill screws.
 - Note 1) The roof purline has no holes.
 - Note 2) The collar beam has the fixed front-rear direction. Be sure to attach the front seal facing to the front frame side.
 - Note 3) Mount the collar beam to the roof purlines by screwing the beam at both right and left sides.



■ Cross-sectional view of installed collar beam



Dear customers

Thank you for buying our products. For continued enjoyment and satisfaction, please pay attention to the following:

1. Take good care of the instruction manual.
2. Wipe up grime with a clean cloth regularly for using the carport for a long time.
3. Use a mild detergent for maintenance, please do not use a petroleum solvent such as a paint thinner.
4. In case of Typ 60, shovel snow on the roof of the carport before snow cover reaches 20cm.
5. Do not shake, climb, hang down, suspend, and put heavy stuff on the carport.

•For improvement purposes we reserve the right to change the contents. Thank you for your understanding.

FOR MORE INFORMATION, PLEASE MAKE INQUIRIES TO
DISTRIBUTOR WHICH YOU PURCHASED.



1415

EN1090-1

Metallic frame of Carport Smart Port

Tolerances on geometrical data: EN1090-2.

Weldability: Equivalent steel S280GD according to EN10214.

Fracture toughness: 27 Joule at 0°C.

Reaction to fire: NPD.

Release of cadmium: NPD.

Emission of radioactivity: NPD.

Durability: Surface preparation according to EN1090-2,
preparation grade P1.

Structural characteristics:

Load bearing capacity: Design according to EN1990.

Manufacturing: According to component specification EN1090-1,
execution class EXC2.