

PRODUCT CATALOG



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PRIME
Fasteners & Fixings

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FASTENER & ACCESSORIES CATALOG

Prime Products in Fasteners and Fixings for Roofing and Construction

Prime fastener and fixings offers products for Roofing & Cladding and General Construction. Our range of products include products in various sizes, materials, type and grade.

The Structural fasteners in our product range are strong, heavy-duty fasteners that are necessary for the construction of structures which include steel to steel connections.

We focus on-time delivery, available inventory, accurate and detailed documentation, strong packaging and shipping, that are important factors to the success of your construction projects.

FASTENER & ACCESSORIES CATALOG

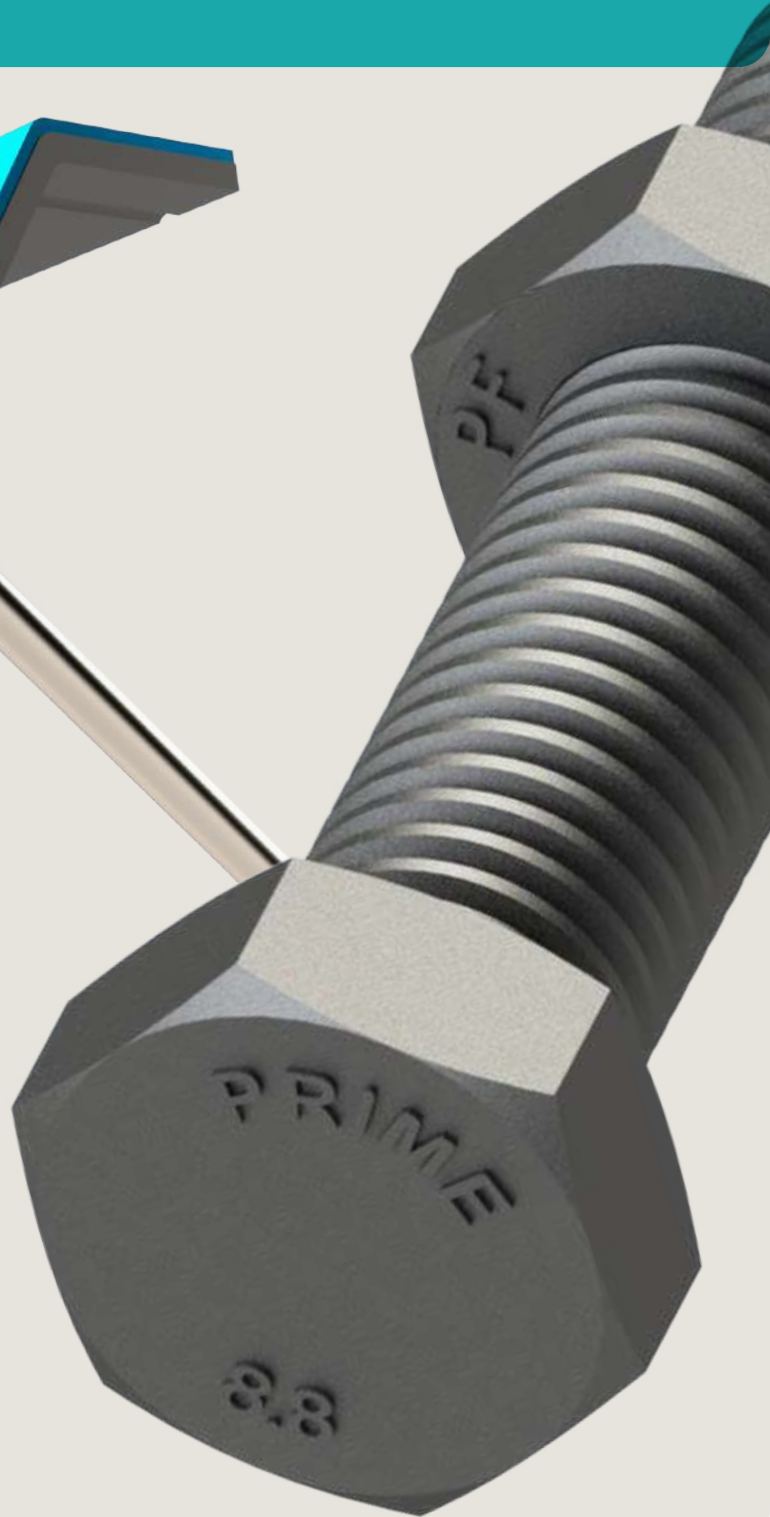


Prime Products in Fasteners and Fixings for Roofing and Construction

Prime fastener and fixings offers products for Roofing & Cladding and General Construction. Our range of products include products in various sizes, materials, type and grade.

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PRODUCTS



- 1. Roofing Screw** 1
Self-Drilling screw for roof fixing application in various material, length and diameter.



- 2. Saddle Washer** 12
Aluminum saddle washer bonded to EPDM in various RAL colors and roofing profile shapes.



- 3. Screw Color Cap** 13
Low density polyethylene screw cap in various RAL colors matching to roofing sheet.



- 4. Butyl Sealant Tape** 14
Butyl Sealant Tape with easy peeling silicon backed release paper for weather sealing in roofs.



- 5. Filler Block** 16
Cross linked Polyethylene foam closure to fill gaps between the ridge and the roofing sheet.



- 6. Purlin Tape** 17
Utility tape for sealing, seaming, repairing, holding, insulation and waterproofing applications.



- 7. Soudal Silicone** 18
Premium silicone Sealant for Glazing & Construction joints and for Sanitary application.



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Full or partial threaded bolts with nuts and washers for structural connections.



- 9. Shear Stud** 24
Headed shear stud connector for composite steel construction used to ensure shear transfer.



- 10. Threaded Rod** 26
Long and fully threaded rods in various size and type for fixing support systems.



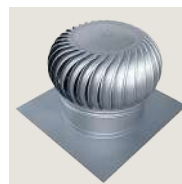
- 11. Anchor Bolt** 28
Foundation bolts in various size and type for anchoring steel structure to concrete foundation.



- 12. Blind Rivets** 30
Aluminum blind pot rivets with open end type, closed end type and bulb-tite in various size.



- 13. Skylight Panel** 33
Polycarbonate skylight panels for use in any kind of roof, flat, curved or pitched.



- 14. Roof Ventilation Fan** 35
Wind driven natural ventilation fan to discharge dirty, hot or contaminated air.



- 15. GRP Down Spout** 36
Downspouts are drainage connection that direct rain water from the roof to the ground.



- 16. Surface Protection** 37
Film & Printed Tapes
Surface Protective film. And custom printed tapes.

1. ROOFING SCREW

SELF DRILLING BIMETAL SCREW - STAINLESS STEEL GRADE 304

Hex washer head screw with EPDM bonded stainless steel SS304 washer.

Bi-Metal Self Drilling Screws are combination of self-drilling screw and corrosion-resistant stainless steel. Bi-Metal screws are made by fusing the hardened carbon steel drill point to the corrosion resistant SS304 part of screw shank and head which is the load bearing part of screw. The bimetal screw is self-drilling which perform by drilling the steel with its drill point and then tapping into steel through its thread.



Hex Washer Head

PF Head Mark for Genuine Brand
Standard size hex washer head for easy driving using magnetic nut setter or socket. And it has raised head mark.

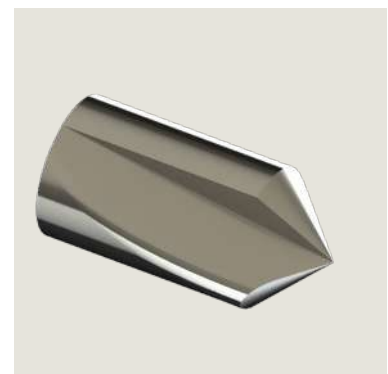
A/F 8 mm



EPDM Bonded Washer

1mm SS304 + 3mm EPDM
The EPDM bonded washer comes assembled on the screw. The EPDM bonded washer is used for weather sealing.

Φ 19 mm



Drill Point

Carbon steel drill point
The hardened carbon steel drill point is fused with stainless steel screw body. The drill point shape allows it to cut into steel.

L 9 mm



Feature	Reference
Material	SS304
Thread	BSD-14 TPI
Drilling Capacity	6 mm
Drill Point Length	9 mm
Coating	Zinc & Wax

Features

Bimetal Self-Drilling Screw

Excellent corrosion resistant screw made of high corrosion resistant material SS304. Typically used in sea-shore environment.

The bimetal screws are also available in high-thread for sandwich panel fixing. In sandwich panel screw the unthreaded shank prevents simultaneous drilling and tapping.

FEATURE AND PERFORMANCE

Selection of size and type of self-drilling screw

Selection of self-drilling screw is based on fixing application. Factors like steel thickness, clamping thickness, usage environment and structural application contribute to the selection of suitable screw for the application.

Use recommended screw driving tool with correct driving RPM suitable to the screw for screw fastening in the screw without failure.

Avoid applying excessive load on screw driving tool while drilling the screw, this will avoid over-compression in EPDM bonded washer and can prevent screw failure.



Drilling Capacity

Steel Thickness Drilling

It is the total thickness a self-drilling screw can drill in steel. Drilling capacity depend on length of drill point.

DC 6 mm

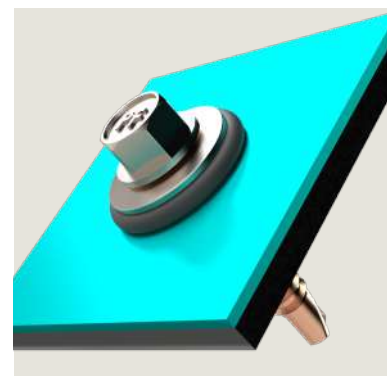


Washer Compression

For optimum sealing

It is important to keep the washer compression correct during driving. Avoid Undercompression or overcompression in EPDM.

WC 1/2 T

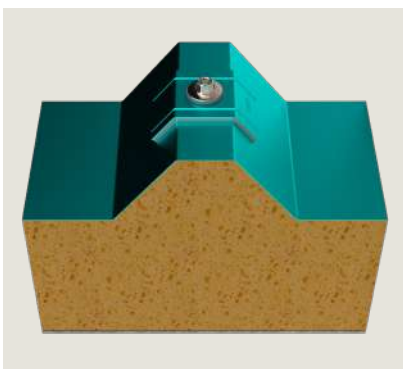


Clamping Thickness

Selection of Screw Length

It is the length of a screw which can be used to clamp or connect two components. Keep min. three thread protrusion.

CT Various



Feature	Reference
Bonded Washer	SS304 + EPDM
Washer Compression	Half Thickness
Protrusion Allowance	Min. 3 Threads
Drilling Speed	1800 RPM
Salt Spray Test (SST)	500 hrs.

Application

Roofing and Cladding

The screw is used to fix profiled sheet to the steel substrate. Normally fixing is done on the lower rib or high rib of panel for wall cladding. It is essential that the total thickness to be drilled does not exceed the drilling capacity of screw. Use recommended screw driving tool with correct driving speed RPM.

RANGE OF BIMETAL SELF DRILLING SCREWS

List of available sizes

Wide range of bimetal screws are available in the collection for suitable selection of screws depending on application requirement.

Full threaded screws and hi-thread screws are listed in the range of bimetal screws. Full threaded screws are typically used to fix profiled sheet to the steel substrate and for stitching. Normally fixing is done on the lower rib or trough of panel for wall cladding. It is essential that the total thickness to be drilled does not exceed the drilling capacity of screw.



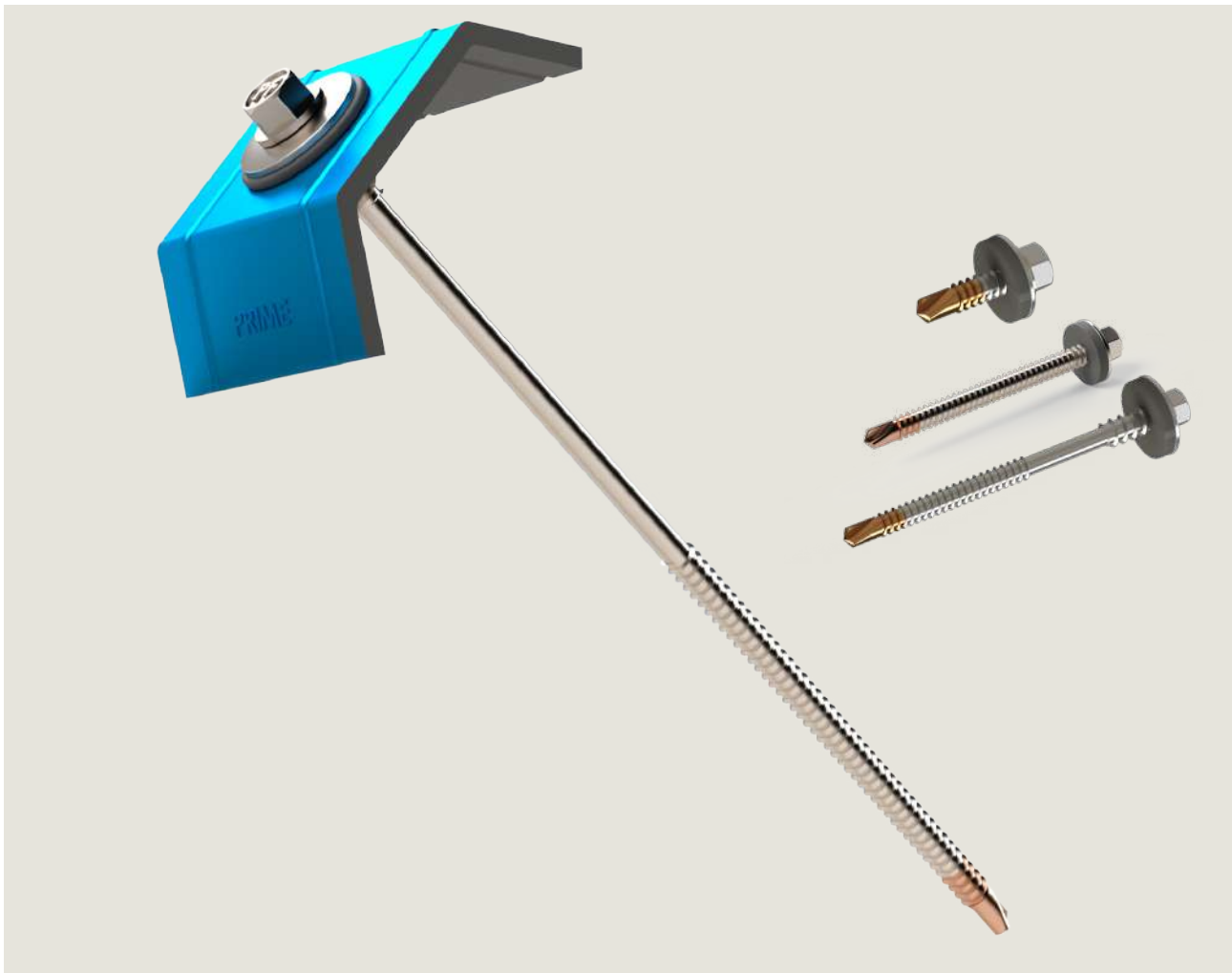
SANDWICH PANEL BIMETAL SELF-DRILLING SCREW High Thread and Partial Thread

The sandwich panel screws are recommended to use together with saddle washer for weather sealing function.

The sandwich panel screw consists of high thread that engages with top skin of sandwich panel and lower partial thread that fastens with underlying steel substrate.

The sandwich panel screws also known as high-thread screws are used to fasten sandwich panels to the underlying steel substrate. The sandwich panel screws are fastened on the high rib of sandwich panel together with saddle washer. It is essential that the total thickness to be fastened does not exceed the drilling capacity of screw.

Product	Diameter	Length	Washer Dia.	Thread	Drill Point	Drill Capacity	Coating
SS SDS 5.5 X 25	5.5 mm (#12)	25 mm	19 mm	Full	#3	6 mm	Zinc & Wax
SS SDS 5.5 X 40	5.5 mm (#12)	40 mm	19 mm	Full	#3	6 mm	Zinc & Wax
SS SDS 5.5 X 50	5.5 mm (#12)	50 mm	19 mm	Full	#3	6 mm	Zinc & Wax
SS SDS 5.5 X 75	5.5 mm (#12)	75 mm	19 mm	Full	#3	6 mm	Zinc & Wax
SS SDS 5.5 X 100	5.5 mm (#12)	100 mm	19 mm	Full	#3	6 mm	Zinc & Wax
SS SDS 5.5 X 115	5.5 mm (#12)	115 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 5.5 X 130	5.5 mm (#12)	130 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 5.5 X 150	5.5 mm (#12)	150 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 5.5 X 175	5.5 mm (#12)	175 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 5.5 X 200	5.5 mm (#12)	200 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 5.5 X 225	5.5 mm (#12)	225 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 5.5 X 250	5.5 mm (#12)	250 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 5.5 X 275	5.5 mm (#12)	275 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 5.5 X 300	5.5 mm (#12)	300 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax



Product	Diameter	Length	Washer Dia.	Thread	Drill Point	Drill Capacity	Coating
SS SDS 6.3 X 25	6.3 mm (#14)	25 mm	19 mm	Full	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 40	6.3 mm (#14)	40 mm	19 mm	Full	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 50	6.3 mm (#14)	50 mm	19 mm	Full	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 75	6.3 mm (#14)	75 mm	19 mm	Full	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 100	6.3 mm (#14)	100 mm	19 mm	Full	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 115	6.3 mm (#14)	115 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 130	6.3 mm (#14)	130 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 150	6.3 mm (#14)	150 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 175	6.3 mm (#14)	175 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 200	6.3 mm (#14)	200 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 225	6.3 mm (#14)	225 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 250	6.3 mm (#14)	250 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 275	6.3 mm (#14)	275 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 300	6.3 mm (#14)	300 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax

1. ROOFING SCREW

SELF DRILLING SCREW - CARBON STEEL - RUSPERT COATED or Galvanized

Hex washer head screw with EPDM bonded GI carbon steel washer.

Carbon Steel Self Drilling Screws are case hardened self-drilling screw and with Ruspert Coating or Galvanized for corrosion resistance property. The carbon steel self-drilling screws are made from high quality carbon steel grade AISI 1022 then case hardened by heat treatment process. The carbon steel screw is self-drilling which perform by drilling the steel with its drill point and then tapping into steel through its thread.



Hex Washer Head

PF Head Mark for Genuine Brand
Standard size hex washer head for easy driving using magnetic nut setter or socket. And it has raised head mark.

A/F

8 mm

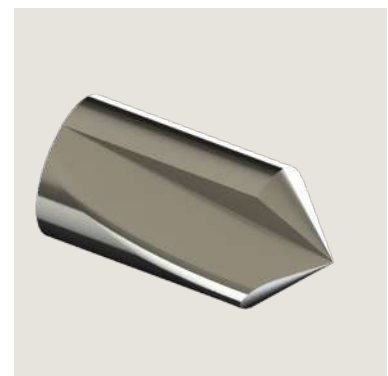


EPDM Bonded Washer

1mm GI + 3mm EPDM
The EPDM bonded washer comes assembled on the screw. The EPDM bonded washer is used for weather sealing.

Φ

19 mm



Drill Point

Carbon steel drill point
The carbon steel drill point is fused case hardened. The drill point shape allows it to cut into steel.

L

9 mm



Feature	Reference
Material	CS 1022
Thread	BSD-14 TPI
Drilling Capacity	6 mm
Drill Point Length	9 mm
Coating	Ruspert

Features

Carbon Steel Self-Drilling Screw

Made from high quality carbon steel and coated with Ruspert for corrosion resistance. Typically used in general construction.

The screws are also available in high-thread for sandwich panel fixing. In sandwich panel screw the unthreaded shank prevents simultaneous drilling and tapping.

FEATURE AND PERFORMANCE

Selection of size and type of self-drilling screw

Selection of self-drilling screw is based on fixing application. Factors like steel thickness, clamping thickness, usage environment and structural application contribute to the selection of suitable screw for the application.

Use recommended screw driving tool with correct driving RPM suitable to the screw for screw fastening in the screw without failure.

Avoid applying excessive load on screw driving tool while drilling the screw, this will avoid over-compression in EPDM bonded washer and can prevent screw failure.



Drilling Capacity

Steel Thickness Drilling

It is the total thickness a self-drilling screw can drill in steel. Drilling capacity depend on length of drill point.

DC 6 mm



Washer Compression

For optimum sealing

It is important to keep the washer compression correct during driving. Avoid Undercompression or overcompression in EPDM.

WC 1/2 T

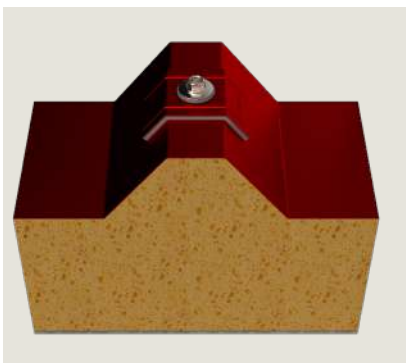


Clamping Thickness

Selection of Screw Length

It is the length of a screw which can be used to clamp or connect two components. Keep min. three thread protrusion.

CT Various



Feature	Reference
Bonded Washer	GI + EPDM
Washer Compression	Half Thickness
Protrusion Allowance	Min. 3 Threads
Drilling Speed	1800 RPM
Salt Spray Test (SST)	1000 hrs.

Application

Roofing and Cladding

The screw is used to fix profiled sheet to the steel substrate. Normally fixing is done on the lower rib or high rib of panel for wall cladding. It is essential that the total thickness to be drilled does not exceed the drilling capacity of screw. Use recommended screw driving tool with correct driving speed RPM.

RANGE OF CARBON STEEL SELF-DRILLING SCREWS

List of available sizes

Wide range of carbon steel screws are available in the collection for suitable selection of screws depending on application requirement.

Full threaded screws and hi-thread screws are listed in the range of carbon steel screws. Full threaded screws are typically used to fix profiled sheet to the steel substrate and for stitching. Normally fixing is done on the lower rib or trough of panel for wall cladding. It is essential that the total thickness to be drilled does not exceed the drilling capacity of screw.



CARBON STEEL SELF DRILLING SCREW High Thread and Partial Thread

The sandwich panel screws are recommended to use together with saddle washer for weather sealing function.

The sandwich panel screw consists of high thread that engages with top skin of sandwich panel and lower partial thread that fastens with underlying steel substrate.

The sandwich panel screws also known as high-thread screws are used to fasten sandwich panels to the underlying steel substrate. The sandwich panel screws are fastened on the high rib of sandwich panel together with saddle washer. It is essential that the total thickness to be fastened does not exceed the drilling capacity of screw.

Product	Diameter	Length	Washer Dia.	Thread	Drill Point	Drill Capacity	Coating
CS 4.8 X 19	4.8 mm (#10)	19 mm	16 mm	Full	#2	1.5 mm	Ruspert
CS 5.5 X 38	4.8 mm (#10)	19 mm	16 mm	Full	#5	12 mm	Ruspert
CS SDS 5.5 X 25	5.5 mm (#12)	25 mm	19 mm	Full	#3	6 mm	Ruspert
CS SDS 5.5 X 40	5.5 mm (#12)	40 mm	19 mm	Full	#3	6 mm	Ruspert
CS SDS 5.5 X 50	5.5 mm (#12)	50 mm	19 mm	Full	#3	6 mm	Ruspert
CS SDS 5.5 X 75	5.5 mm (#12)	75 mm	19 mm	Full	#3	6 mm	Ruspert
CS SDS 5.5 X 100	5.5 mm (#12)	100 mm	19 mm	Full	#3	6 mm	Ruspert
CS SDS 5.5 X 115	5.5 mm (#12)	115 mm	19 mm	Hi-Thread	#3	6 mm	Ruspert
CS SDS 5.5 X 130	5.5 mm (#12)	130 mm	19 mm	Hi-Thread	#3	6 mm	Ruspert
CS SDS 5.5 X 150	5.5 mm (#12)	150 mm	19 mm	Hi-Thread	#3	6 mm	Ruspert
CS SDS 5.5 X 175	5.5 mm (#12)	175 mm	19 mm	Hi-Thread	#3	6 mm	Ruspert
CS SDS 5.5 X 200	5.5 mm (#12)	200 mm	19 mm	Hi-Thread	#3	6 mm	Ruspert
CS SDS 5.5 X 225	5.5 mm (#12)	225 mm	19 mm	Hi-Thread	#3	6 mm	Ruspert
CS SDS 5.5 X 250	5.5 mm (#12)	250 mm	19 mm	Hi-Thread	#3	6 mm	Ruspert
CS SDS 5.5 X 275	5.5 mm (#12)	275 mm	19 mm	Hi-Thread	#3	6 mm	Ruspert
CS SDS 5.5 X 300	5.5 mm (#12)	300 mm	19 mm	Hi-Thread	#3	6 mm	Ruspert



Product	Diameter	Length	Washer Dia.	Thread	Drill Point	Drill Capacity	Coating
CS SDS 6.3 X 25	6.3 mm (#14)	25 mm	19 mm	Full	#3	6 mm	Galvanized
CS SDS 6.3 X 40	6.3 mm (#14)	40 mm	19 mm	Full	#3	6 mm	Galvanized
CS SDS 6.3 X 50	6.3 mm (#14)	50 mm	19 mm	Full	#3	6 mm	Galvanized
CS SDS 6.3 X 75	6.3 mm (#14)	75 mm	19 mm	Full	#3	6 mm	Galvanized
CS SDS 6.3 X 100	6.3 mm (#14)	100 mm	19 mm	Full	#3	6 mm	Galvanized
CS SDS 6.3 X 115	6.3 mm (#14)	115 mm	19 mm	Hi-Thread	#3	6 mm	Galvanized
CS SDS 6.3 X 130	6.3 mm (#14)	130 mm	19 mm	Hi-Thread	#3	6 mm	Galvanized
CS SDS 6.3 X 150	6.3 mm (#14)	150 mm	19 mm	Hi-Thread	#3	6 mm	Galvanized
CS SDS 6.3 X 175	6.3 mm (#14)	175 mm	19 mm	Hi-Thread	#3	6 mm	Galvanized
CS SDS 6.3 X 200	6.3 mm (#14)	200 mm	19 mm	Hi-Thread	#3	6 mm	Galvanized
CS SDS 6.3 X 225	6.3 mm (#14)	225 mm	19 mm	Hi-Thread	#3	6 mm	Galvanized
CS SDS 6.3 X 250	6.3 mm (#14)	250 mm	19 mm	Hi-Thread	#3	6 mm	Galvanized
CS SDS 6.3 X 275	6.3 mm (#14)	275 mm	19 mm	Hi-Thread	#3	6 mm	Galvanized
CS SDS 6.3 X 300	6.3 mm (#14)	300 mm	19 mm	Hi-Thread	#3	6 mm	Galvanized

1. ROOFING SCREW

SELF DRILLING SCREW - STAINLESS STEEL GRADE 410

Hex washer head screw with EPDM bonded stainless steel SS304 washer.

SS410 Self Drilling Screws are hardened self-drilling screw and corrosion-resistant. The screws are completely made from hard and corrosion resistance SS410 material. The SS410 material has good corrosion resistance along with high strength and hardness. The SS410 screw is self-drilling which perform by drilling the steel with its drill point and then tapping into steel through its thread.



Hex Washer Head

PF Head Mark for Genuine Brand
Standard size hex washer head for easy driving using magnetic nut setter or socket. And it has raised head mark.

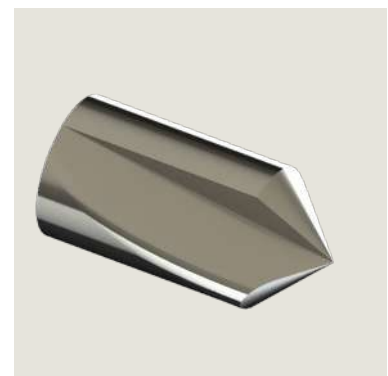
A/F 8 mm



EPDM Bonded Washer

1mm SS304 + 3mm EPDM
The EPDM bonded washer comes assembled on the screw. The EPDM bonded washer is used for weather sealing.

Φ 19 mm



Drill Point

Carbon steel drill point
The SS410 screw steel drill point is hard that allows cutting in steel. The drill point shape allows it to cut into steel.

L 9 mm



Feature	Reference
Material	SS410
Thread	BSD-14 TPI
Drilling Capacity	6 mm
Drill Point Length	9 mm
Coating	Zinc & Wax

Features

SS 410 Self-Drilling Screw

Good corrosion resistant screw made of corrosion resistant stainless steel material grade SS410. Typically used in mild corrosive environment. The SS410 screws are also available in high-thread for sandwich panel fixing. In sandwich panel screw the unthreaded shank prevents simultaneous drilling and tapping.

FEATURE AND PERFORMANCE

Selection of size and type of self-drilling screw

Selection of self-drilling screw is based on fixing application. Factors like steel thickness, clamping thickness, usage environment and structural application contribute to the selection of suitable screw for the application.

Use recommended screw driving tool with correct driving RPM suitable to the screw for screw fastening in the screw without failure.

Avoid applying excessive load on screw driving tool while drilling the screw, this will avoid over-compression in EPDM bonded washer and can prevent screw failure.



Drilling Capacity

Steel Thickness Drilling

It is the total thickness a self-drilling screw can drill in steel. Drilling capacity depend on length of drill point.

DC 6 mm



Washer Compression

For optimum sealing

It is important to keep the washer compression correct during driving. Avoid Undercompression or overcompression in EPDM.

WC 1/2 T

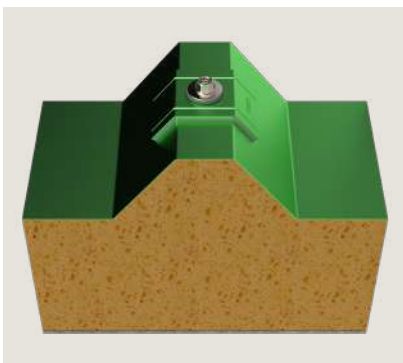


Clamping Thickness

Selection of Screw Length

It is the length of a screw which can be used to clamp or connect two components. Keep min. three thread protrusion.

CT Various



Feature	Reference
Bonded Washer	SS304 + EPDM
Washer Compression	Half Thickness
Protrusion Allowance	Min. 3 Threads
Drilling Speed	1800 RPM
Salt Spray Test (SST)	500 hrs.

Application

Roofing and Cladding

The screw is used to fix profiled sheet to the steel substrate. Normally fixing is done on the lower rib or high rib of panel for wall cladding. It is essential that the total thickness to be drilled does not exceed the drilling capacity of screw. Use recommended screw driving tool with correct driving speed RPM.

RANGE OF SS410 SELF DRILLING SCREWS

List of available sizes

Wide range of SS410 screws are available in the collection for suitable selection of screws depending on application requirement.

Full threaded screws and hi-thread screws are listed in the range of SS410 screws. Full threaded screws are typically used to fix profiled sheet to the steel substrate and for stitching. Normally fixing is done on the lower rib or trough of panel for wall cladding. It is essential that the total thickness to be drilled does not exceed the drilling capacity of screw.



SANDWICH PANEL SS410 SELF-DRILLING SCREW High Thread and Partial Thread

The sandwich panel screws are recommended to use together with saddle washer for weather sealing function.

The sandwich panel screw consists of high thread that engages with top skin of sandwich panel and lower partial thread that fastens with underlying steel substrate.

The sandwich panel screws also known as high-thread screws are used to fasten sandwich panels to the underlying steel substrate. The sandwich panel screws are fastened on the high rib of sandwich panel together with saddle washer. It is essential that the total thickness to be fastened does not exceed the drilling capacity of screw.

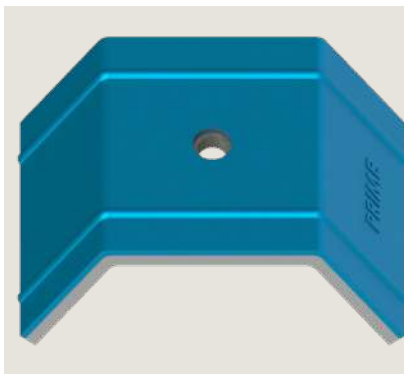
Product	Diameter	Length	Washer Dia.	Thread	Drill Point	Drill Capacity	Coating
SS SDS 6.3 X 25	6.3 mm (#14)	25 mm	19 mm	Full	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 40	6.3 mm (#14)	40 mm	19 mm	Full	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 50	6.3 mm (#14)	50 mm	19 mm	Full	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 75	6.3 mm (#14)	75 mm	19 mm	Full	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 100	6.3 mm (#14)	100 mm	19 mm	Full	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 115	6.3 mm (#14)	115 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 130	6.3 mm (#14)	130 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 150	6.3 mm (#14)	150 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 175	6.3 mm (#14)	175 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 200	6.3 mm (#14)	200 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 225	6.3 mm (#14)	225 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 250	6.3 mm (#14)	250 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 275	6.3 mm (#14)	275 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax
SS SDS 6.3 X 300	6.3 mm (#14)	300 mm	19 mm	Hi-Thread	#3	6 mm	Zinc & Wax

2. SADDLE WASHER

SADDLE WASHER - ALUMINUM OR SS BONDED TO EPDM

Aluminum or SS bonded to Vulcanized formed to match roof profile

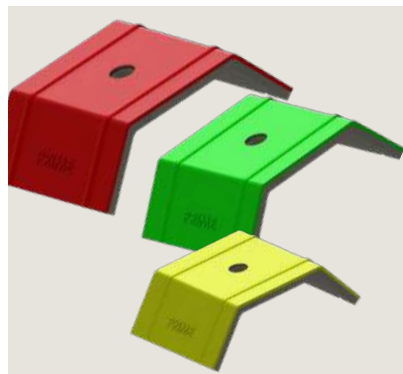
The saddle washer is used in conjunction with roofing screws and fixed at the high rib. Saddle washers are generally made from 1 mm Aluminum bonded to 2 mm EPDM, special saddle washer can also be made from stainless steel bonded to EPDM. Saddle washer is applied under the screw and fastened on the roof for efficient weather sealing capabilities which prevent roof leaks, as well as bending of high-rib during screw fastening.



Saddle Washer

PRIME Mark for Genuine Brand

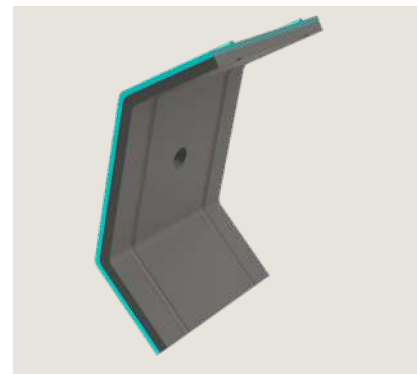
Various shaped saddle washer for different corrugated sheet profile. And it has raised head mark.



Aluminum Saddle

Powder Colored

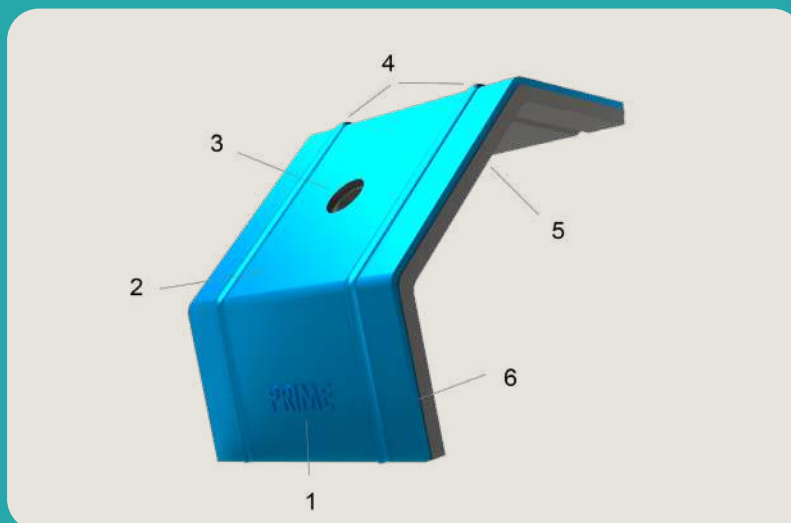
The aluminum saddle washer comes in various RAL color to match color of the roof, for aesthetic appearance.



EPDM

Vulcanized Grey EPDM

Vulcanized grey Bonded EPDM provides efficient weather sealing capabilities which prevent roof leaks.



1. Brand Marking for Genuine Product
2. Powder coated in various RAL Colors to match roof color
3. EPDM Hole Dia. slightly less than main dia. for sealing
4. Reinforcing Ribs prevents bending
5. 2 mm Vulcanized EPDM bonded to Aluminum
6. 1 mm Aluminum formed to corrugated profile shape

3. SCREW COLOR CAP

SCREW COLOR CAPS FOR SCREWS

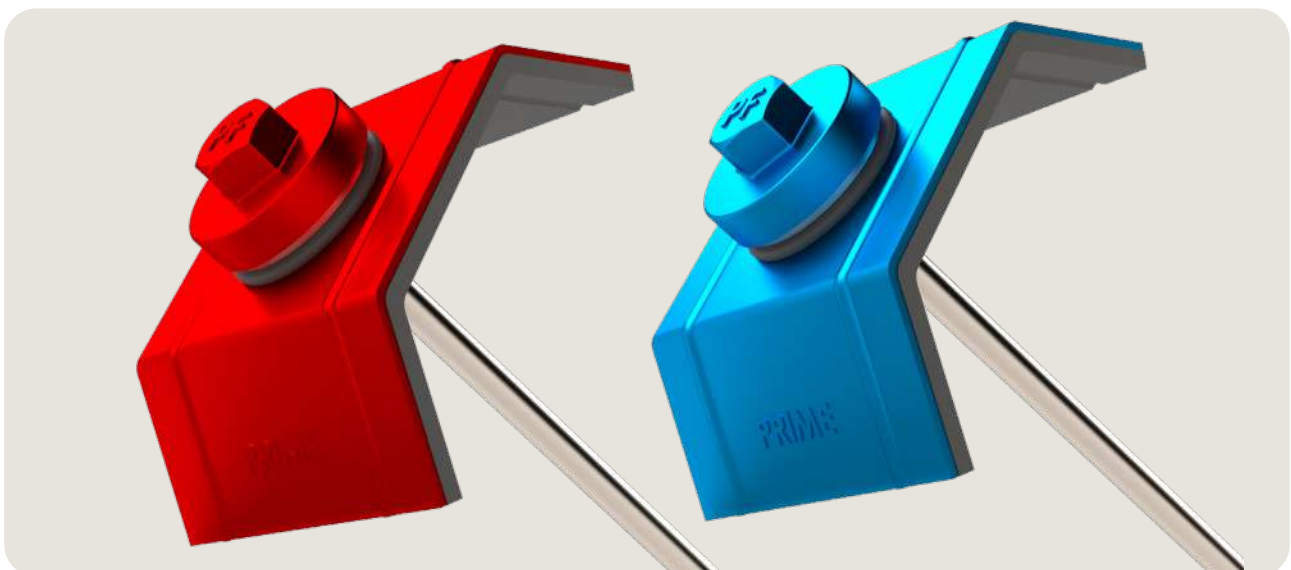
Low Density Polyethylene (LDPE) Colored Caps

The screw caps are made from 1 mm thick low density polyethylene (LDPE) with ultraviolet additives as a stabilizing reagent which provides life expectancy over 5 years. Colored Screw Caps are used for two main purpose. 1. To protect the exposed head of the screws from weather and sunlight and 2. To provide aesthetic appearance by matching the color of roof. The colored caps are available in all RAL colors to match the roof color.



Feature	Reference
Size	5.5 mm Screw
Size	6.3 mm Screw
Thickness	1 mm
Material	LDPE

Feature	Reference
Colors	All RAL Colors
UV Resistance	Good
Weather v	Good
Service Life	Over 5 Years



4. BUTYL SEALANT TAPE

BUTYL SEALANT TAPE

Butyl Sealant Tape with easy peeling silicon backed release paper

Butyl tapes are self-adhesive, volume stable, non-hardening mastic tapes based on butyl rubber, which are available either as single bead, double bead, U-shape with silicon backed release paper. Due to outstanding adhesion property with all solid material, the water replellant butyl tapes are suitable for the reliable and lasting sealing of joints, cracks, seams and overlapping in many construction applications.



Feature	Reference
Material	Polyisobutylene (PIB)
Flat Shape	2.4 mm X 9.5 mm X 19 m
U-Shape	5.0 mm X 22 mm X 9 m
Curing or Hardening	None
Color	Grey, White and Black

Feature	Reference
UV Resistant	Excellent
Water Sealing	Excellent
Adhesion	Excellent
Flexibility	Excellent
Age Resistance	Excellent



BUTYL SEALANT TAPE - APPLICATION

Construction, Automobiles, Steel

Butyl sealant tape is used to form a water and airtight seal between a membrane and most commonly used building materials. The product is compatible with brickwork, blockwork, masonry, timber, metalwork and most plastic products. Butyl Tape is most effective when used under compression.

Butyl sealant tape is used in wide range of application such as covering seals for construction and connecting joints in building & construction, sealing external/internal joints or overlaps in HVAC construction.

Varios Butyl tapes are generally ideal for covering seals in general construction, overlapped sheet metal joints, flashing for porches, roof windows, heat insulation, air-conditioning joint, ventilation and sanitation, sealing of skylights to roofs, sealing of wall-panels and connection constructions.

CRL Butyl Tape will elongate and absorb compression within the sealant without breaking the adhesive bond to the substrates. It is designed not to shrink or oxidize under longterm aging. It is used to form an adhesive seal or gasket between metal, concrete, glass, and most plastic surfaces in either above or below grade applications. The sealant will withstand a variety of environmental conditions.

Application

Roofing Construction

Cooling and Air-Conditioning

Automobile Construction

Ship Building

Container Building

Facade Construction

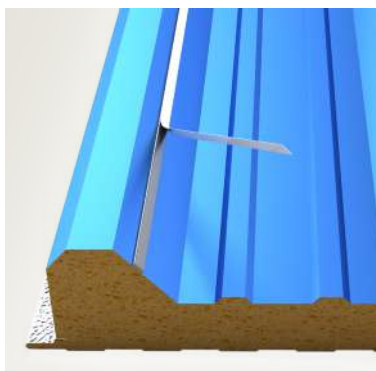
Glazing

Sanitary

Electrical Installation

Plumbing

Furniture and Internal Fittings



General Installation

General placement of butyl Tape

Metal to metal installation in which the metal will be attached or fastened. Side overlap and End overlap in Roofing installations.

Roofing Installations



UV Resistant

Ideal for Outdoor application

Butyl tape is resistant to weathering, direct sunlight and UV rays, making it ideal for outdoor applications.

UV

Resistant



Salient Features

Excellent feature for purpose

Temp. resistance, chemical resistance, abrasion resistance, weather resistance, high tackiness, air impermeability.

FT.

Excellent

Installation Instruction

General Installation Instruction for butyl tape in Roofing application

All installation surfaces must be clean and dry. Due to the high adhesive quality of Prime Butyl Tape, surface priming is not normally required. If wet or unusual surface conditions exist, it is recommended that an adhesive primer be applied and allowed to dry a minimum of 40 minutes before application of the sealant. Prime Butyl Tape bonds instantly to most surfaces and to itself.

Always butt the ends of tape sealant together. Do not overlap. Leave the protective release liner on the sealant during application and remove only after the structure is ready for coupling. The joint should then be coupled with sufficient pressure for joint assembly.

5. FILLER BLOCK

FILLER BLOCK OR FOAM CLOSURE

Closed cell and Cross-Linked Low Density Polyethylene Foam (LDPE)

Filler blocks are used for sealing the gaps formed between profile sheet materials and purlin. Filler blocks also known as foam closure are made from Closed cell and Cross-Linked Low Density Polyethylene foam (LDPE). The filler blocks are cut in various corrugated profile shapes to suit the respective profile of sheet or panel. Profiled foam fillers are designed to seal roofing and cladding profiles against dust, water and water vapour ingress. Foams generally come in 2m X 1m sheet and 25-30 mm thick.



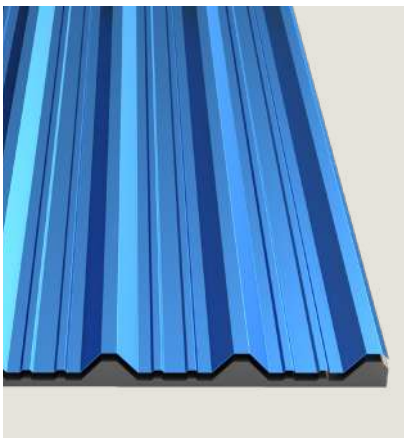
Profile Cutting & Application

Press cut to form exact profile shape

Filler blocks are made from large foam sheet then press cut to match the corrugated profile. Therefore foam closure can be made to order, to fulfill exact requirements, and are available in a wide range of combinations and variations of corrugation profile shapes. These filler blocks are generally 25-30 mm thick and the length that matches to the respective panelwidth.

Foam closures can be used on either side of a metal panel that are used to help seal the panel. The strips fill in the space between the roof deck (the base of which your roof lays) and the high part of the waves that make up the metal panel.

Feature	Reference
Low Density	33 kg/m ³
Cross-linked	0.35 mm cell size
Age Resistance	Excellent
Weather Sealing	Excellent
Flexibility	Excellent
Forming or Cutting	Easy



Installation

Inner and Outer Foam Closure

Inner filler blocks are used to fill gap between corrugated sheet and purlin. And when corrugated sheets are overlapped on the roof, outer filler blocks are used for sealing. Butyl sealant tape or silicon is used beneath the filler block to fix it on the surface. Apply gentle pressure on the foam to attach it with sealant beneath it. Do not press down too firmly, adjustment may be needed at later stage.

6. PURLIN TAPE

Purlin Tape or Duct Tape

Cloth duct tape with aggressive adhesive

Purlin Duct tape, also known as cloth tape is a strong and reliable product designed initially for sealing joints in air-conditioning ducts but is multipurpose and can be used for any general sealing and repairs. The cloth-scrim backed tape is still often made from rubber-based adhesive and applied to a durable cloth backing. Being water resistant makes it suitable for indoor and outdoor use. This sticky duct tape is available in various widths, lengths.



Water Resistance

Usefull in waterproof application
Polyethylene coated cloth scrim backing provides moisture resistance to tape applications which prolong tape bonding.

Water Resistant



Easy to Tear

Comfortably tears
Offers easy tear and conformability in patching, reinforcing, bundling, moisture proofing, sealing, splicing and temporary repair.

Easy to Tear



Adhesion

Good holding power
Rubber adhesive that adheres aggressively to most surfaces for good holding power and a tight seal on the surface.

Excellent Adhesion



1. Waterproof cloth-reinforced polyethylene film backing
2. Strong and Easy to Tear
3. Cold Temperature Performance
4. Natural Rubber Adhesive
5. When applied on purlin, it creates barrier or insulation between purlin and panel in roofing application
6. Available in Grey color, and standard width of 48 or 72mm and 55 m long

Feature	Reference
Tensile Strength	45 N/10 mm
Steel Adhesion	21 N/100 mm
Elongation	25 %
Thickness	8 mils (0.20 mm)
Service Temperature	4 °C - 90 °C
Standard Size	24, 48, 72, 96 mm X 55 mm
Color	Grey

7. SOUDAL SILICONE



SILICONE SEALANT - SOUDAL - MAKE BELGIUM

Neutral cure silicone sealant

For all sealing, waterproofing and bonding applications where protection against mould and mildew is required. The ultimate all rounder silicone suitable to the broadest range of applications. Offers strong adhesion to ceramics, glass, aluminium (including powder coated & anodised), PVC, stainless steel, zinc & galvanised coated surfaces, timber, concrete, fibreglass, laminate, painted surfaces, etc.



SOUDAL Universal Silicone GP

Universal General Purpose Silicone

- Very easy to apply
- Colourfast and UV resistant
- Permanently elastic after curing
- Very good adhesion on many materials
- Low modulus, Neutral curing
- Used in building joints with high movement joints
- Used in expansion joints between different materials

SOUDAL WS

Weather Sealing of Expansion Joints

- Compatible with PVB-film
- Compatible with sealants for double glazing
- Very easy to apply
- Colourfast and UV resistant
- Permanent elastic after curing
- Excellent adhesion on materials
- Low modulus, Corrosion free
- Resistant against UV-radiation, rain, frost, wind, ozone.

SOUDAFOAM 1K

Ready to use Polyurethane Foam

- Excellent adhesion on most substrates (except Teflon, PE and PP)
- High thermal and acoustical insulation
- Very good filling capacities
- Excellent mounting capacities
- Excellent stability (no shrink or post expansion)
- Used in filling cavities, Mounting and sealing of frames.



Product	Packaging	Color
Soudal Universal Silicone GP	280 ml	Transparent, White
Soudal Silirub WS	310 ml	Black
Soudafoam 1K	750 ml	Beige



General Installation

Soudal GP and Soudal WS

Cleaning: Clean with White Spirit or Soudal Surface Cleaner immediately after use (before curing).

Application Method: With manual- or pneumatic caulking gun.

Finishing: With a soapy solution or Soudal Finishing Solution before skinning. Repair with the same material.

General Installation

Soudafoam 1K

Shake the aerosol can for at least 20 seconds. Put the adapter on the valve. Moisten surfaces with a water sprayer prior to application. Remove pressure from the applicator to stop.

- Structural fasteners are strong, heavy-duty fasteners that are necessary for the construction of structures which include steel to steel connections.
- Structural fasteners come in a variety of types and are used for a wide range of applications.
- Often used in structural steel to steel fastening applications, the structural bolt is a hex head style threaded fastener designed to provide the heavy duty holds needed in steel building frameworks.
- Most fasteners are made from alloy steel, carbon steel, and stainless steel.



8. BOLT ASSEMBLY

BOLT ASSEMBLY

Bolts, Nuts & Washer for Structural Connections

Often used in structural steel to steel fastening applications, the structural bolt is a hex head style threaded fastener designed to provide the heavy duty holds needed in steel building frameworks. The heavy hex head of the bolt gives this fastener a wider bearing surface to distribute the load better. Structural bolts are used with a nut and hardened washer to fasten steel to steel connections.

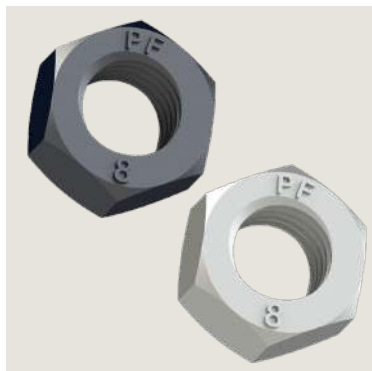


Bolts

Hex Head Bolts

DIN/ISO metric hex head bolts, with full and partial thread in various standard diameter, lengths and surface coatings.

BOLT Grade 8.8



Nuts

Hex Nuts

DIN/ISO internally threaded hex nuts with metric coarse thread in various diameters suitable for use with DIN/ISO hex bolts.

NUT Grade 8



Washers

Plain Flat Washers

DIN/ISO plain flat washer made of mild steel in various diameters for use in conjunction with bolts and nuts.

WASHER Plain Flat

Feature	Reference
Head	Hexagon
Thread	Coarse Full or Partial
Diameter	M8 - M36
Length	30 - 200 mm
Material	Carbon Steel
Grade	Class 8.8
Coating	Black, EG, HDG
Marking	Prime 8.8

Feature	Reference
Head	Hexagon
Thread	Coarse Internal
Diameter	M8 - M36
Length	N/A
Material	Carbon Steel
Grade	Class 8
Coating	Black, EG, HDG
Marking	PF 8

Feature	Reference
Type	Plain/Flat
Chamfer	None
Diameter	M8 - M36
Length	N/A
Material	Mild Steel
Grade	Type A
Coating	Black, EG, HDG
Marking	None

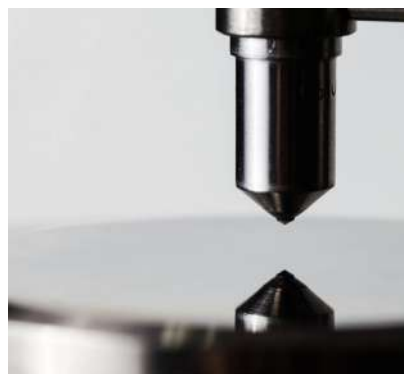
Mechanical Properties

Strength and Hardness of Bolt Assembly

Standard industrial fasteners are manufactured from either carbon or alloy steels. When strength requirements are moderate, low-carbon steel is used.

High-strength fasteners are made from medium-high carbon or alloy steels and are heat treated to develop desired properties. Heat treatment covers various techniques that may be used to develop certain end-product characteristics. Customary procedures for fasteners include annealing, stress relieving, case hardening, direct quench and temper, and carbon restoration.

Most fasteners are covered by specifications that define required mechanical properties such as tensile strength, yield strength, proof load, and hardness.



HEAT TREATMENT

Heat treatment covers various techniques that may be used to develop certain end-product characteristics. Procedures for fasteners include annealing, stress relieving, case hardening, direct quench and temper, and carbon restoration. So, fasteners made from carbon steels are heat treated for desired properties.

TENSILE STRENGTH

Tensile Strength is the most widely associated threaded fastener mechanical property and is the maximum tension applied load the fastener can support prior to its fracture, it is also called Ultimate tensile strength UTS.

While Yield Strength is stress at which permanent deformation begins.

HARDNESS

Hardness is the resistance of a material to plastic deformation. This is usually measured in steels by the Brinell, Rockwell, or Vickers indentation-hardness test methods. Hardness is one of the important mechanical properties listed in bolt standards. It verifies the strength of fasteners in fast and easy way.

Diameter, mm	Standard	Tensile Strength	Yield Strength	Elongation	Area Reduction	Hardness
Bolt $\Phi \leq M16$	ISO 898-1	Min. 800 N/mm ²	Min. 640 N/mm ²	12 %	52 %	22-32 HRC
Bolt $\Phi \geq M20$	ISO 898-1	Min. 830 N/mm ²	Min. 660 N/mm ²	12 %	52 %	22-32 HRC
Nut $\Phi \leq M16$	ISO 898-2	-	-	-	-	Max. 30 HRC
Nut $\Phi > M16$	ISO 898-2	-	-	-	-	Max. 36 HRC
Washer	DIN 125/ISO 7090	-	-	-	-	140-250 HV



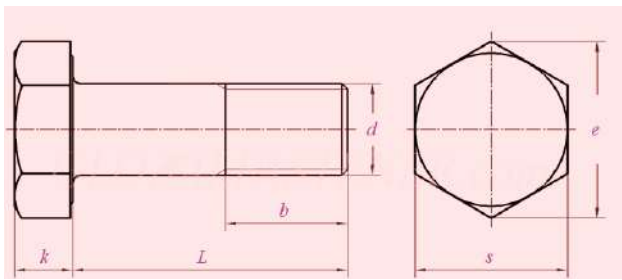
COATING Black (Black Phosphated)



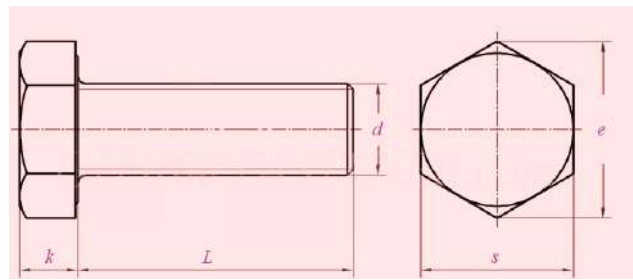
COATING HDG (Hot-dip galvanized)



COATING EG (Electrogalvanized)



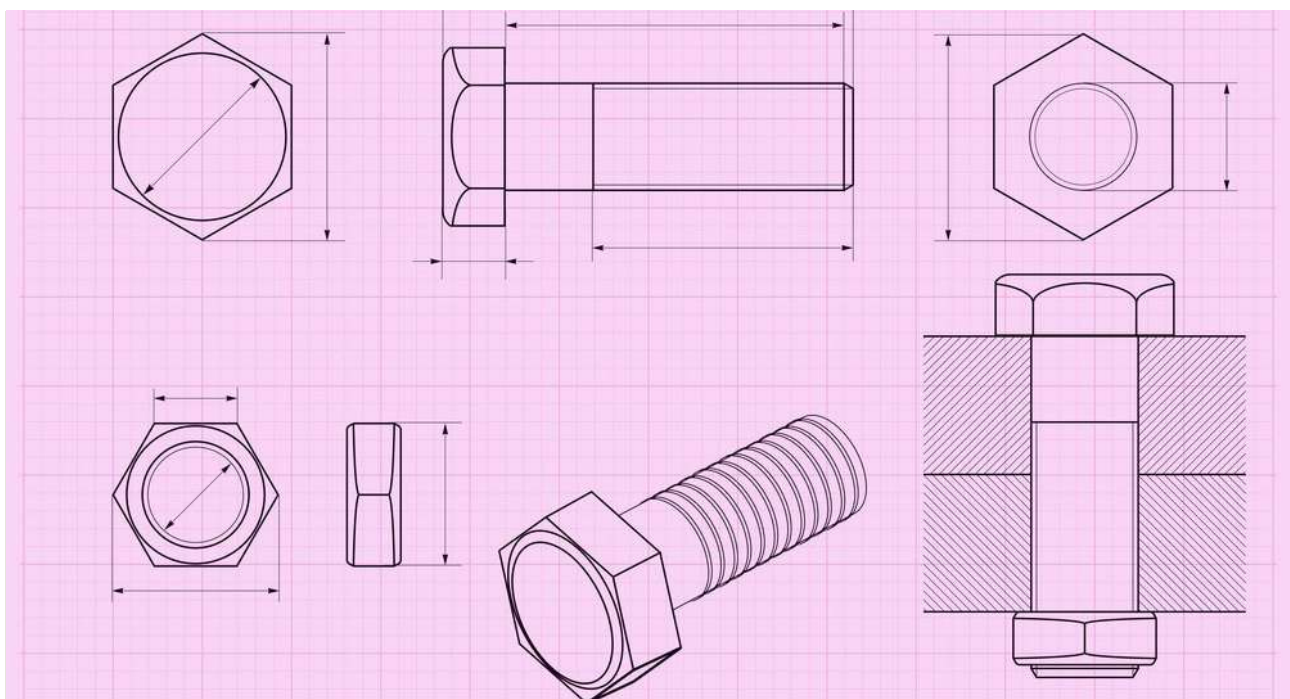
BOLT DIMENSION DIN 931 Partial Thread

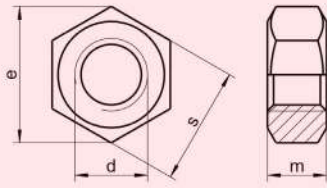


BOLT DIMENSION DIN 933 Full Thread

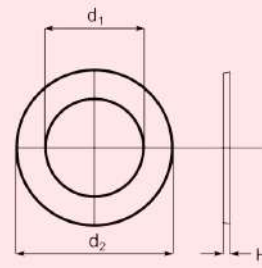
Diameter	Pitch	b			k, nom.	e, min.	s, nom.
		L ≤ 125	125 < L ≤ 200	L ≤ 125			
M8	1.25	22	28	-	5.3	14.38	13
M10	1.5	26	32	45	6.4	18.72	17
M12	1.75	30	36	49	7.5	20.88	19
M14	2	34	40	53	8.8	23.91	22
M16	2	38	44	57	10	26.17	24
M18	2.5	42	48	61	11.5	29.56	27
M20	2.5	46	52	65	12.5	32.95	30
M22	2.5	50	56	69	14	35.03	32
M24	3	54	60	73	15	39.55	36
M27	3	60	66	79	17	45.2	41
M30	3.5	66	72	85	18.7	50.85	46
M33	3.5	72	78	91	21	55.37	50
M36	4	78	84	97	22.5	60.79	55

Dimensions in mm





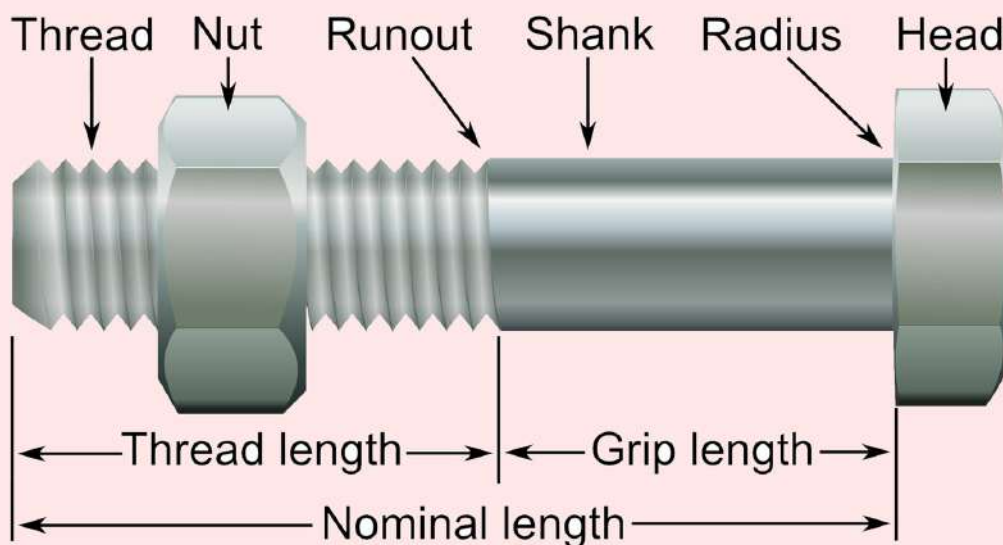
NUT DIMENSION DIN 934 Internal Thread



WASHER DIMENSION DIN 125 Plain Flat

Size	Pitch	Nut Dimension			Washer Dimension		
		m	e	s	d ₁	d ₂	h
M8	1.25	5.3	14.38	13	8.4-8.62	15.57-16	1.4-1.8
M10	8	18.9	17	17	10.5-10.77	19.48-20	1.8-2.2
M12	10	21.1	19	19	13-13.27	23.48-24	2.3-2.7
M14	11	24.49	22	22	15-15.27	27.48-28	2.3-2.7
M16	13	26.75	24	24	17-17.27	29.48-30	2.7-3.3
M18	15	29.56	27	27	19-19.33	33.38-34	2.7-3.3
M20	16	32.95	30	30	21-21.33	36.38-37	2.7-3.3
M22	18	35.03	32	32	23-23.33	38.38-39	2.7-3.3
M24	19	39.55	36	36	25-25.33	43.38-44	3.7-4.3
M27	22	45.2	41	41	28-28.33	49.38-50	3.7-4.3
M30	24	50.85	46	46	31-31.39	55.26-56	3.7-4.3
M33	26	55.37	50	50	34-34.62	58.8-60	4.4-5.6
M36	29	60.79	55	55	37-37.62	64.8-66	4.4-5.6

Dimensions in mm



9. SHEAR STUD

SHEAR STUD OR SHEAR CONNECTOR

Shear Force transfer between the steel section and concrete slab

Composite beams are typically hot rolled steel sections that act compositely with a concrete slab. Shear studs are required to transfer force between the steel section and the concrete slab. The studs are welded to the beam, normally through the deck sheet. This enables the concrete slab to act like a large top flange to the composite beam when the concrete has hardened and creates a stronger section to support the loadings applied to the finished slab.



Product Specification

Material and Mechanical Properties

The shear studs are manufactured by cold heading or cold forging process, where head mark is also embossed on head for genuine product brand declaration.

Prime Shear Studs are made as per AWS D1.1 requirements with the material conforming to ASTM A29 Grade 1010 through 1020 and mechanical properties conforming to the respective product grade, where AWS D1.1 Type B studs are most widely used. Prime Shear Studs are available in various sizes of diameters and lengths which meet AWS D1.1/D1.5/ISO 13918 requirements.

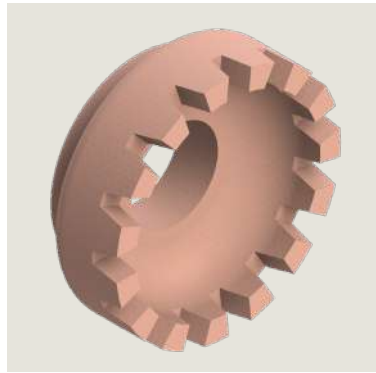
Grade	% Carbon	% Manganese	% Phosphorus, max	% Sulfur, max
Grade 1010	0.08-0.13	0.30-0.60	0.040	0.050
Grade 1011	0.08-0.13	0.60-0.90	0.040	0.050
Grade 1012	0.10-0.15	0.30-0.60	0.040	0.050
Grade 1013	0.11-0.16	0.50-0.80	0.040	0.050
Grade 1015	0.13-0.18	0.30-0.60	0.040	0.050
Grade 1016	0.13-0.18	0.60-0.90	0.040	0.050
Grade 1017	0.15-0.20	0.30-0.60	0.040	0.050
Grade 1018	0.15-0.20	0.60-0.90	0.040	0.050
Grade 1019	0.15-0.20	0.70-1.00	0.040	0.050
Grade 1020	0.18-0.23	0.30-0.60	0.040	0.050

Standard	Tensile Strength, N/mm ²	Yield Strength, N/mm ²	Elongation, %	Area Reduction, %
AWS D1.1 Type A	420 Min.	340 Min.	17 Min.	50 Min.
AWS D1.1 Type B	450 Min.	350 Min.	15 Min.	50 Min.
AWS D1.1 Type C	552 Min.	485 Min.	-	-
AWS D1.5 Type A	380 Min.	-	17 Min.	50 Min.
AWS D1.5 Type B	415 Min.	345 Min.	20 Min.	50 Min.
ISO 13918	450 Min.	350 Min.	15 Min.	-



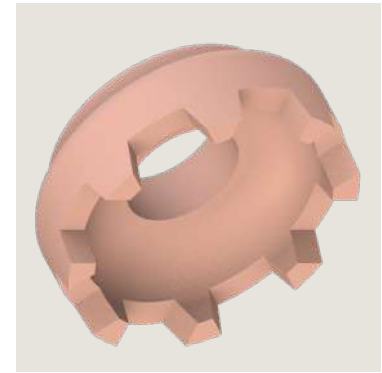
Head Mark

Prime Head Mark for Genuinity
Standard head size for easy welding process. And it has raised head mark declaring product genuinity.



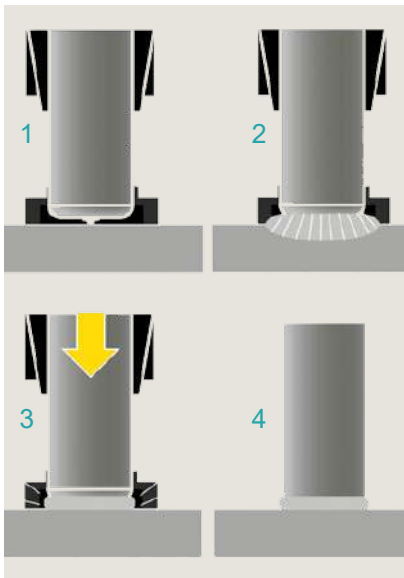
Standard Ferrule

Ceramic Ferrule
For weld integrity, shear studs are welded using a ceramic ferrule. Standard duty ferrules are used in direct base metal welding.



Thru-Deck Ferrule

Ceramic Ferrule
Thru-Deck Ferrule are used when welding stud through decking sheet. It has wide teeth and thicker body.



Drawn Arc Stud Welding Process of Welding Shear Stud

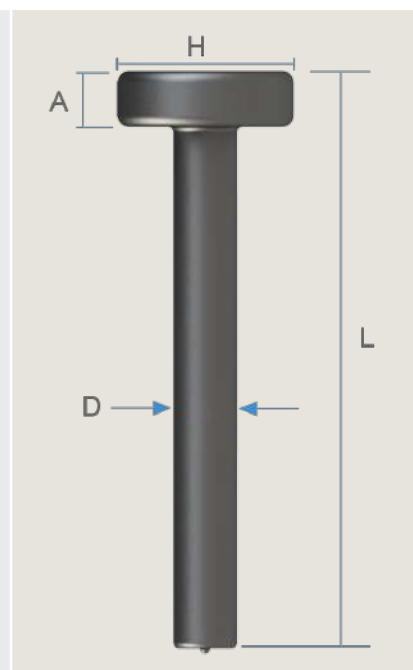
In this process the operator uses a weld tool/gun, to place the stud against the base metal. When triggered, an electric solenoid in the gun lifts the stud to a preset height off the base metal. The drawn arc melts the base of the stud and the base metal, creating a molten pool. The gun then forces the stud down into the molten pool and the molten material is held in place with a ceramic ferrule until the weld is formed.

After the weld the burn-off or length reduction typically ranges from 2-6 mm depending on shear stud size.

Stages of Drawn Arc Stud Welding

1. Stud is loaded into the weld tool and positioned against base metal.
2. Trigger is pressed; then stud lifts and arc created - Drawn Arc.
3. Arcing period completed and stud is plunged into molten metal pool.
4. Weld is complete, weld tool is withdrawn, ferrule removed for inspection.

Diameter, D	A, mm	H, mm	Burn-off, mm	L, mm
1/4" / 6 mm	13	5	3	28, 68, 79, 105
3/8" / 10 mm	19	7	3	35, 41, 54, 66, 79, 105, 130, 155, 206
1/2" / 12 mm	25	8	3	28, 38, 41, 54, 66, 79, 105, 135, 155, 206, 257, 308
5/8" / 16 mm	32	8	4	36, 43, 49, 55, 68, 81, 94, 106, 132, 167, 208, 233, 258, 309
3/4" / 19 mm	32	10	4	81, 94, 106, 119, 132, 144, 157, 170, 182, 208, 233, 258, 309, 411
7/8" / 22 mm	35	10	4	81, 94, 106, 132, 157, 182, 208, 233, 258, 309
1" / 25 mm	41	12	6	82, 108, 133, 158, 184, 209, 235



10. THREADED ROD

THREADED ROD

Long and fully threaded rod

Threaded rod, also known as threaded bar, threaded studding or screw rod, is a common fastener type. It is used much the same way as a very long, thick bolt or screw. Screwed rod threading might run the full length of the stud (all-thread), or partway along from both ends.

General application in construction include fixing support system in MEP & HVAC installations.



- Threaded rods come in different materials, with the best choice depending on various factors like the application, the environment where it will be installed, and which types of materials it is going to be securing.
- Mild steel galvanized threaded rod is one of the most common types. Various sorts of steel and derivative materials are typically used in the manufacture of threaded rods.
- Stainless steel (SS threaded rod) is another common type, ideal for use when exposed to harsh conditions or humid environments over prolonged periods.



Application

MEP & HVAC installations

Plumbing and contracting typically relies on threaded rods made of steel or stainless steel. They're commonly used in HVAC installations, for example. They enable quick level or the sloping installation of ductwork, heaters, air handlers and other equipment. They're also used to hang suspended ceilings, pipe supports etc.

Application

Construction
Automotive assembly and repair
Pproduction and processing facilities
Electrical installation
Plumbing and contracting
HVAC Installations
Agricultural uses
Plant maintenance
Steel Fabrication
Anchor Bolts

Delivery Condition

Various Lengths to Supply

Threaded rods are generally supplied in nominal length of 1 meter and can be cut into sections of different lengths and tolerances are required as per the order. Like bolts, threaded rods are used generally with nuts and washers. They can also be used as double end studs with a nut on either side or as studs.

The standard threaded rods are manufactured in property class 4.6, 5.6 & 5.8. Other grades are available on request.



Feature	Reference
Standard	DIN 975
Material	CS, SS
Thread	Coarse Full
Property Class	4.6, 5.6, 5.8, 8.8
Coating	Self, EG, HDG
Diameter	M8 - M24
Length	1-3 m
Suitable Nut	DIN 934
Suitable Washer	DIN 125

Technical Delivery Condition

Grade, Coating, Material (CS-Carbon Steel, SS-Stainless Steel)

Threaded rods conform to the standard requirements of DIN 975 for the applicable property class/grade. Suitable nuts and washers should be selected based on grade of threaded rod being used.

Diameter	Pitch	Length	Material	Coating
M8	1.25 mm	2 & 3 m	CS-Carbon Steel	EG & HDG
M10	1.5 mm	2 & 3 m	CS-Carbon Steel	EG & HDG
M12	1.75 mm	2 & 3 m	CS-Carbon Steel	EG & HDG
M14	2 mm	2 & 3 m	CS-Carbon Steel	EG & HDG
M16	2 mm	2 & 3 m	CS-Carbon Steel	EG & HDG
M20	2.5 mm	2 & 3 m	CS-Carbon Steel	EG & HDG
M24	3 mm	2 & 3 m	CS-Carbon Steel	EG & HDG
M8	1.25 mm	2 & 3 m	SS 316-Stainless Steel	Self
M10	1.5 mm	2 & 3 m	SS 316-Stainless Steel	Self
M12	1.75 mm	2 & 3 m	SS 316-Stainless Steel	Self
M14	2 mm	2 & 3 m	SS 316-Stainless Steel	Self
M16	2 mm	2 & 3 m	SS 316-Stainless Steel	Self
M20	2.5 mm	2 & 3 m	SS 316-Stainless Steel	Self
M24	3 mm	2 & 3 m	SS 316-Stainless Steel	Self

11. ANCHOR BOLT

ANCHOR BOLT OR FOUNDATION BOLT

Concrete foundation Anchor Bolt - Straight & Bent Configurations

A foundation bolt is a steel product in the form of a rod with a threaded part; consists of a metal rod and a special device that holds the foundation bolt inside the foundation. It is used for fastening structures in the construction of residential buildings, industrial buildings, roads etc.

They are embedded in concrete and provide pull out resistance with their fully threaded bodies, along with the help of a nut, or nut and plate combination. All thread rod anchor bolts are commonly specified using the anchor bolt specification ASTM F1554 in Grades 36, 55 and 105.



Technical Delivery Condition

Type, Grade, Coating, Material

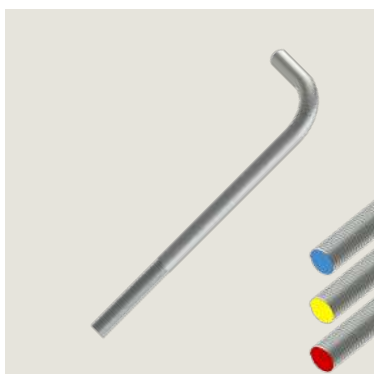
Anchor bolts are coupled with hex and plate washer to secure the joint. These foundation bolts are often used in bent profile such as J and L. They come in many types, sizes and coatings depending upon its application.

Foundation bolts are produced across many material categories and astm specifications. ASTM F1554 is most common product specification.

Anchor bolts are available in electrogalvanized and hot dip galvanized coatings for corrosion resistance property.

The end of anchor bolt which are projected out from the concrete are generally color coded or die stamped to identify the grade.

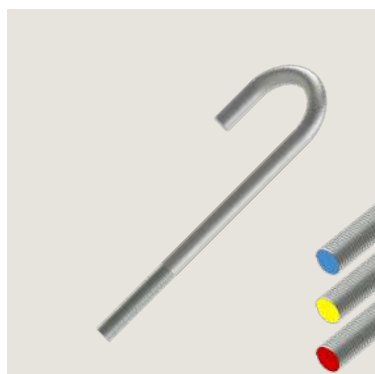
ASTM F1554	Reference	Color Marking
Grade 36	Low carbon, 36 ksi yield steel anchor bolts	AB36
Grade 55	High strength, low alloy, 55 ksi yield steel anchor bolts	AB55
Grade 105	Alloy, heat treated, high strength 105 ksi yield steel anchor bolts	AB105



L - Anchor Bolt

L-shaped foundation bolt

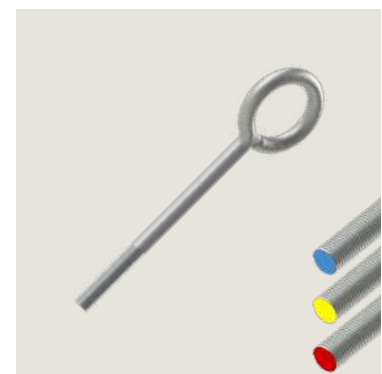
L type Anchor bolt are embedded in concrete and used to support steel columns and concrete structures.



J - Anchor Bolt

J-shaped foundation bolt

J-type anchor bolts have a bend at one end to grab onto the embedded concrete or masonry structure.



Eye - Anchor Bolt

Eye shaped foundation bolt

The eye foundation bolt has one end of it forged to bend and look like an eye, which is embedded in concrete.



Application

For foundation and anchoring

Foundation bolts are cast-in-place anchor bolts which are cast directly into the concrete.

In construction industry, anchor bolts are typically used to attach steel to concrete. One end is embedded into the concrete, while the opposite end is threaded to attach structural support.

Feature - ASTM F1554	Grade 36	Grade 55	Grade 105
Diameter, mm	6.4 - 102	6.4 - 102	6.4 - 76
Tensile Strength, MPa	400 - 558	517 - 655	862 - 1034
Yield Strength, MPa	Min. 248	Min. 380	Min. 724
Elongation in 200 mm, %	Min. 20	Min. 18	Min. 12
Elongation in 50 mm, %	Min. 23	Min. 21	Min. 15
Reduction Area, 6.4-50 mm incl, %	Min. 40	Min. 30	Min. 45
Reduction Area, 50-63 mm incl, %	Min. 40	Min. 22	Min. 45
Reduction Area, 63-76 mm incl, %	Min. 40	Min. 20	Min. 45
Reduction Area, 76-102 mm incl, %	Min. 40	Min. 18	-
Carbon, upto 20 mm incl, %	Min. 26	-	-
Carbon, upto 20-40 mm incl, %	Min. 27	-	-
Carbon, upto 40-102 mm incl, %	Min. 28	-	-
Carbon, upto 20-40 mm incl, %	Min. 27	-	-
Manganese, upto 20 mm incl, %	Optional	-	-
Manganese, upto 20-102 mm incl, %	0.60 - 0.90	-	-
Phosphorous, %	Max. 0.04	Max. 0.04	Max. 0.04
Sulfur, %	Max. 0.05	Max. 0.05	Max. 0.05
Copper, %, when specified	Min. 0.20	Min. 0.20	Min. 0.20
Recommended Nuts	ASTM A563M Grades 5	ASTM A563M Grades 8S	ASTM A563M Grades 10S
Reommended Washers	ASTM F436M	ASTM F436M	ASTM F436M
Hot Dip Galvanized - HDG Coating	Minimum 53 µm coating thickness as per ASTM F2329M and A153M Class C		
Other Coatings	As agreed		

12. BLIND RIVETS

BLIND RIVETS OR POP RIVETS

Used when no access to Blind Side

Blind rivets, a.k.a. pop rivets, are tubular fasteners with a mandrel through the center. Blind rivets are inserted into drilled holes in the parts to be joined, and a special tool is used to draw the mandrel through the body of the rivet. The blind end expands, and the mandrel is snapped off. Unlike solid rivets, blind rivets can be installed in joints from only one side of the part—making them “blind” to the opposite side.

Rivets have a two-piece construction; one is called the rivet body, shell, or hat and another is called the stem or mandrel. Both the hat and mandrel are pre-assembled and ready to use. Rivets are installed by using a riveting tool to draw the mandrel which causes the body to deform and clamp down on the joint. Upon reaching the designed clamping force, the mandrel snaps and is discarded.

Feature	Reference
Type	Closed End
Rivet Material	Aluminum
Mandrel Material	Aluminum
Rivet Diameter, mm	3.2, 4.0, 4.8
Length, mm	7 - 22



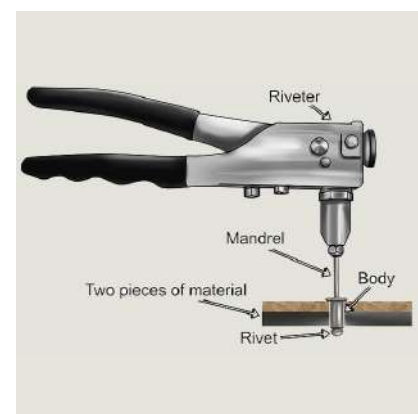
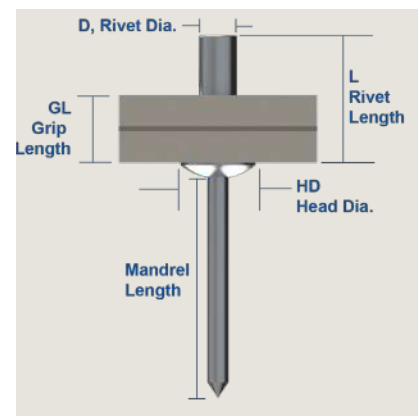
Full-Aluminum

Closed End Blind Rivet

Closed end blind rivets where mandrel, rivet, full body is made of Aluminum.

Rivets are installed by using a suitable riveting tool to draw the mandrel which causes the body to deform and clamp down on the joint and mandrel snaps.

D, mm	HD, mm	L, mm	GL, mm	Tensile, N	Shear, N
3.2	6	7	1.0 - 3.0	480	450
3.2	6	9	3.1 - 5.0	480	450
3.2	6	11	5.1 - 7.0	480	450
4.0	8	8	1.5 - 3.5	800	550
4.0	8	10	3.6 - 5.5	800	550
4.0	8	13	6.5 - 8.5	800	550
4.8	9.5	8	1.0 - 3.0	1100	900
4.8	9.5	11.5	5.0 - 7.0	1100	900
4.8	9.5	14	7.1 - 9.0	1100	900
4.8	9.5	16	9.1 - 11.0	1100	900
4.8	9.5	18	11.1 - 13.0	1100	900
4.8	9.5	20	13.1 - 15.0	1100	900
4.8	9.5	22	15.1 - 17.0	1100	900

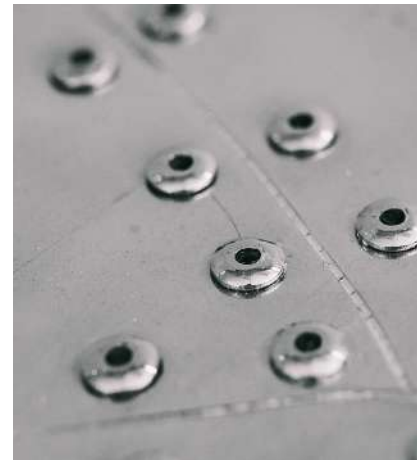


Installation

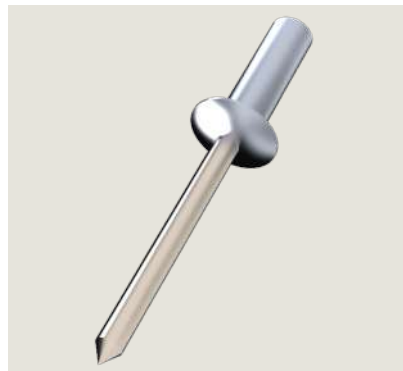
Use suitable riveting tool

To use a blind rivet, a hole is drilled then the rivet is seated inside of the hole. Then a tool pulls the mandrel against the hat of the rivet. The back of the mandrel either has a bulge on the end or is connected to the hat in some way which makes the edges of the hat expand down towards the material. Once this expansion reaches the material and builds pressure, a designed fault in the mandrel reaches its peak force capacity and snaps. Leaving a properly installed rivet.

One of the biggest benefits of rivets is that there is no way to over or under-torque a rivet. If the appropriate diameter and grip range are chosen, the rivet will install perfectly every time.



Feature	Reference
Type	Closed End
Rivet Material	Al-Mg5
Mandrel Material	SS 304
Rivet Diameter, mm	3.2, 4.0, 4.8
Length, mm	6 - 22

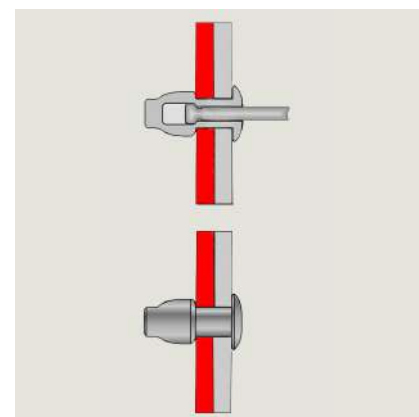
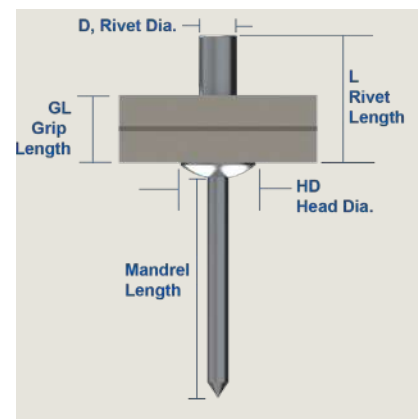


Aluminum-SS Mandrel

Closed End Blind Rivet

Closed end blind rivets where mandrel is made of Stainless steel 304 and rivet is made of Aluminum. Rivets are installed by using a suitable riveting tool to draw the mandrel which causes the body to deform and clamp down on the joint and mandrel snaps.

D, mm	HD, mm	L, mm	GL, mm	Tensile, N	Shear, N
3.2	6	9	3.0 - 5.0	1250	1050
3.2	6	11	5.1 - 7.0	1250	1050
3.2	6	12	6.0 - 8.0	1250	1050
4.0	8	8	1.5 - 3.5	2250	1650
4.0	8	10	3.6 - 5.5	2250	1650
4.0	8	13	6.5 - 8.5	2250	1650
4.8	9.5	8	1.0 - 3.0	3050	2250
4.8	9.5	11.5	5.0 - 7.0	3050	2250
4.8	9.5	14	7.1 - 9.0	3050	2250
4.8	9.5	16	9.1 - 11.0	3050	2250
4.8	9.5	18	11.1 - 13.0	3050	2250
4.8	9.5	20	13.1 - 15.0	3050	2250
4.8	9.5	22	15.1 - 17.0	3050	2250



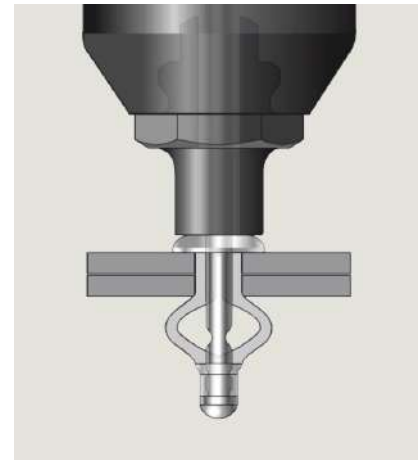
BULB-TITE RIVET

Tri Fold Rivet - Use suitable riveting tool

Bulb-Tite blind rivets are made of aluminum alloy, where a special nose tip on the rivet installation tool crimps a crown feature on the rivet head. This crown-crimp effectively seals the rivet bore off from dirt and moisture intrusion. Adding a rubber washer to the Bulbtite rivet creates an additional seal around the perimeter of the rivet head to stop moisture from intruding beneath the rivet head.

When installed, the body of a Bulb-Tite rivets folds into three separate legs, forming a large bearing surface on the blindside. This bearing head evenly distributes the Bulb-Tite rivet's high clamp force in soft, thin, or brittle materials, while providing high pull-through resistance. With a wide grip range, a single Bulbtite rivet can be used across a various material thicknesses.

Feature	Reference
Type	Closed End
Rivet Material	Al-Mg5
Mandrel Material	SS 304
Rivet Diameter, mm	3.2, 4.0, 4.8
Length, mm	6 - 22



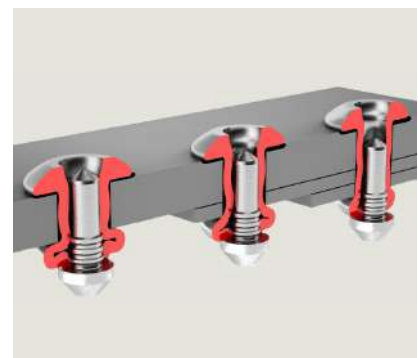
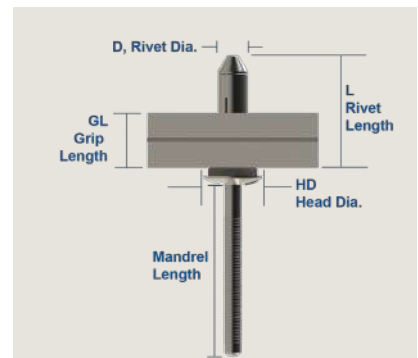
Bulb-Tite Rivet

Trifold Water Seal Rivet

Tri-fold Bulb-Tite rivets where mandrel, rivet, full body is made of Aluminum alloy.

Rivets are installed by using a suitable riveting tool to draw the mandrel which causes the body to deform and clamp down on the joint and mandrel snaps.

D, mm	HD, mm	L, mm	GL, mm	Tensile, N	Shear, N
4.1	8.9	20.3	1.7 - 6.4	1050	1550
4.1	8.9	25.1	6.4 - 12.7	1050	1550
5.2	11.6	17.5	1.3 - 4.7	2100	3200
5.2	11.6	19.1	2.7 - 6.4	2100	3200
5.2	11.6	22.2	4.7 - 9.5	2100	3200
5.2	11.6	25.4	7.9 - 12.7	2100	3200
5.2	11.6	28.6	11.1 - 15.9	2100	3200
5.2	11.6	31.8	14.3 - 19.1	2100	3200
6.3	14.0	23.4	3.2 - 9.5	3200	5000
6.3	14.0	26.5	6.4 - 12.7	3200	5000
6.3	14.0	29.7	9.5 - 15.8	3200	5000

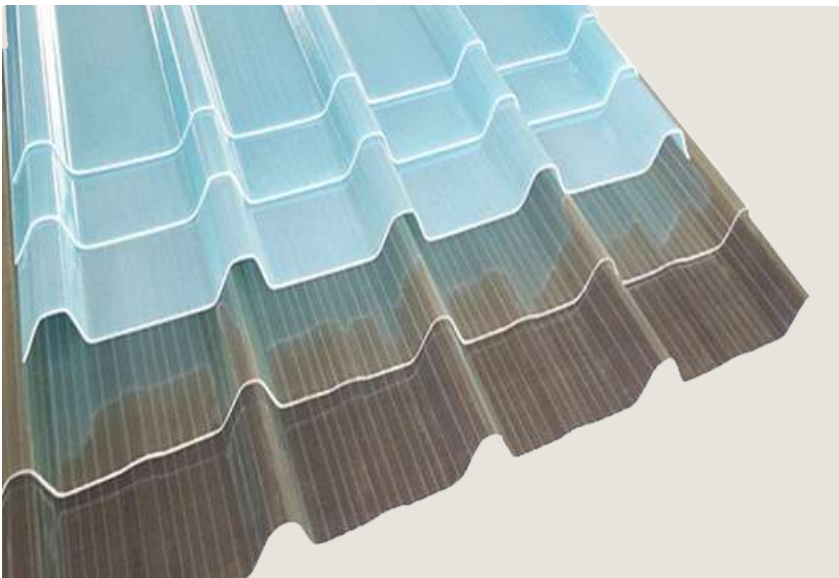


13. SKYLIGHT PANEL

SKYLIGHT PANEL

Solution for free lighting inside enclosed buildings

The Polyester (FRP/GRP) Skylight Panels are an ideal solution for free lighting inside enclosed building during day-time. These are generally installed on roofs but can be installed vertically on side walls also. Skylight panels are resistant to all weather conditions, has strength to withstand reasonable impact and aggressive environmental conditions. Available in various shape, size and color.



Application

All type of buildings

- Skylights
- Roof Lights
- Sidelights
- Factories
- Workshops
- Warehouse
- Industrial Sheds
- Conservatories roofing
- Overhead glazing
- Smoke extractor
- Public Malls
- Roofed Markets



Properties and Advantages

Introducing natural light into a closed space

The high performing skylight panel stands up to punishing exterior applications. The translucent GRP skylights which are light in weight and provide strength, elasticity, superior moisture resistance and insulation. With an average transparency of 70% – 75%, FRP (GRP) skylights are ideal for Commercial and Industrial Buildings, Warehouses and Greenhouses.

Advantages

All type of buildings

- It renders considerable savings on electricity bills during day-time
- Higher strength to weight ratio
- Easy to install
- Virtually maintenance free (occasional cleaning recommended)
- Provides diffused light with maximum illumination
- Can be manufactured to suit any profile, shape or size
- High resistant to shattering
- Resistant to corrosive and chemical environments

Caution

Foot Traffic

- Not suitable for foot traffic if thickness < 4 mm and purlin spacing > 1250 mm



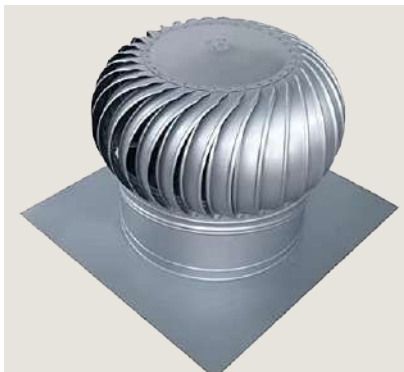
Feature	Reference
Thickness	1 - 4 mm
Cover Width	As per profile design (Max. 1250 mm)
Length	1 - 6 m
Density	1536.6 kg/m ³
Color	Clear Translucent or Tinted
Light Transmission	55 - 85 %
Water Absorption	< 0.25 % by mass, 24 h, 22°C
Tensile Strength	8.9 kN/cm ²
Flexural Strength	16.5 kN/cm ²
Compressive Strength	18.5 kN/cm ²
Shear Strength	9.85 kN/cm ²
Impact Strength	4.27 N/cm ²
Flexural Modulus	721 N/cm ²
Hardness (Barcol)	45 - 65 N/cm ²
Thermal Conductivity (k-Value)	0.15 W/m K
Thermal Transmittance (U-Value)	5.58 W/m ² K
Thermal Expansion Coefficient (Linear)	24 X 10 ⁻⁶ m/°C
Shading Coefficient (Single)	80 %
Operating Temperature	-25 to +80 °C

14. ROOF VENTILATION FAN

ROOF VENTILATION FAN

Wind Driven Natural Ventilation Fans

Roof ventilators discharge dirty or contaminated air containing odors, fumes, and grease vapor away from the roof. These exhaust fans prevent heat and moisture buildup and help reduce energy costs by circulating air, cooling attics, and reducing overall air conditioner strain. Wind-driven turbine ventilators don't require electricity to operate, but instead create a vacuum that exhausts air using wind power.



Application

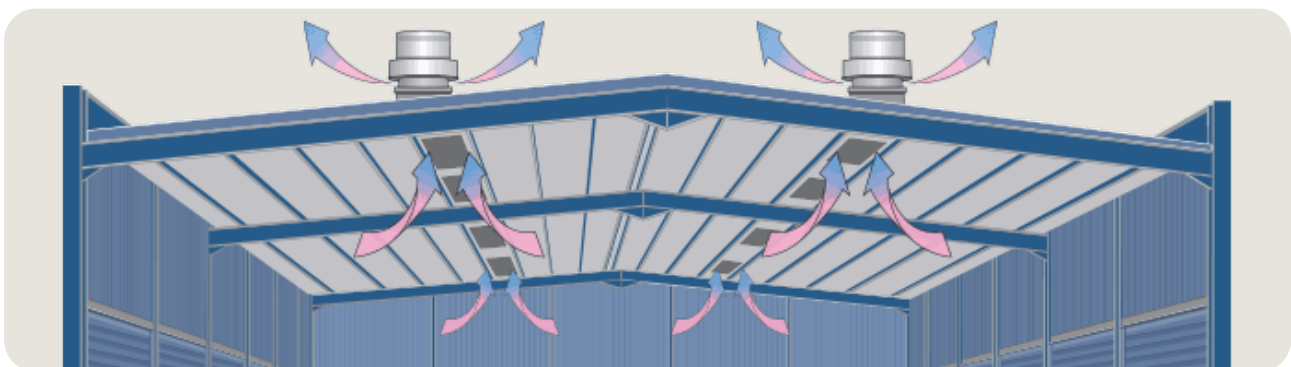
Industrial Roof Ventilation Systems

Wind driven ventilator fan can rotate with the breeze to help create a strong upward draft that can draw inside air up and out. These ventilators are suitable for use in industrial and commercial buildings, including warehouses, manufacturing facilities, foundries, and laboratories. Designed for high winds, they're lightweight and maintenance & noise free and do not require any additional external supports.

Features and Advantages

Roof Mounted Natural Ventilation

- Available in 600 mm diameter with base plate.
- Available in aluminum and stainless steel.
- Rigid rod from curved vanes. Waterproof and Stormproof.
- Light weight and durable. Saves cost, need only natural wind.
- Spare the hassle of getting approvals and for electrical fans installations
- Easy to install on any type of roof. Virtually maintenance free.
- No noise as using supervene bush.
- Rainproof as it is designed to protect from rain.
- Very Safe, since electricity is not needed there is no danger of short circuiting and extra cost due to wiring
- Rotor shaft and bearing assembly concealed in aluminum or stainless steel hence there is no rust.



15. GRP DOWN SPOUT

GRP DOWN SPOUT

Solution to drain rainwater from a roof

Downspout is used for both new construction and re-roofing. It channels water downward from gutter or collector outlets. GRP Downspouts and gutter are used in construction industry with their application for fluid drainage with sealing. They are manufactured by using UV stabilized get coats, thermosetting polyester resin and glass fiber. They have good thermal insulation and high-temperature resistant.



Application

Drainage of Rain Water

GRP Downspout from the gutter system provides solution to drainage requirement of rainwater. These can be slightly expensive compared to GI or Aluminum downspouts but offers many advantages. The GRP downspouts are manufactured as single molded piece and can be made in lengths upto 5 meters. The spouts are perfect leak-proof connection between gutters and drain pipes.

Features and Advantages

Efficient for Drainage

- Available sizes - 2", 3", 4", 6"
- Cost-effective compared to metal downspouts
- Higher strength to weight ratio
- Manufactured to suit any profile shape and size
- Non-conducting and Resistant to corrosive/chemical environments
- Virtually maintenance free (occasional cleaning recommended)
- Easy to install and can be worked on (machined) easily
- Available in various RAL color for aesthetics
- Weatherproof to all extreme conditions
- UV stability & Non-absorbent to hydrocarbons
- High Impact Resistance
- Customizable designs, accessories and options

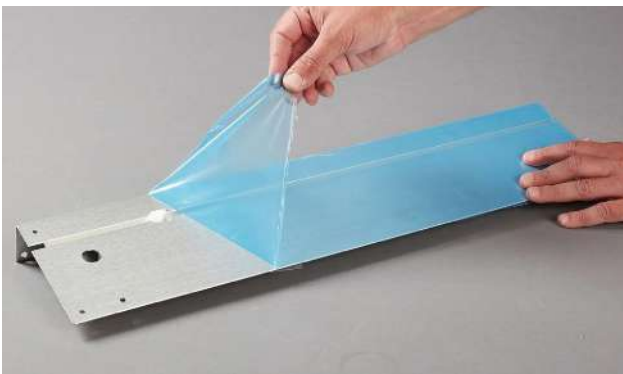


16. SURFACE PROTECTION FILM & PRINTED TAPES

SURFACE PROTECTION FILM

Self Adhesive Surface Protection Film

The protective film can protect sandwich panel or any metal surface from scratch, mark, damage and dirt at the process of bending, pressing, roll forming, transportation and installation etc.



Size	Features
1000 mm X 1000 meters	High Stretch Capability
1020 mm X 1000 meters	Transparent and Colored
1100 mm X 1000 meters	Durable Self-Ahereing
1200 mm X 1000 meters	Water & Moisture Proof
1220 mm X 1000 meters	Multipurpose Heavy Duty



PRINTED TAPES

Custom Printed Tapes

Printed tapes are highly effective in sealing packages and looks professional too. These tapes can be printed with a custom message, brand name or anything specific.



Size	Features
Available in custom sizes	Custom Print
	Logo Tape
	Barrier Tape
	Warning Tape
	Packaging Tape





P R I M E
Fasteners & Fixings

PRIME

Fasteners & Fixings

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