

RAINFIT™

Roofwater Systems for
collection & disposal

Rainfit – Roof water systems are used for collection and disposal of rainwater. The collected rainwater can be directed to storage destinations like pits, borewells, shafts and wells to augment the water level. The inert property of the material used in the making of PVC pipes makes it resistant to bacterial and fungal growth.



*ZERO DEFECT MANUFACTURING PROCESS

Pipes as per
IS:4985



COLLECTS WATER
EFFICIENTLY, REMOVES
IT PERFECTLY.



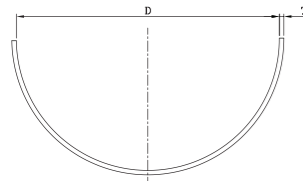
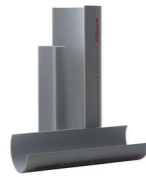
► SPECIFICATIONS

	Fittings	Pipes
Material	Polypropylene (PP)	Unplasticized Polyvinyl Chloride (UPVC)
Colour	Light Grey	Light Grey
End Connections	Elastomeric Rubber seal with clamps	Elastomeric Rubber seal with clamps

► PRODUCT RANGE

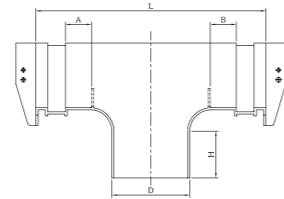
- Half round pipes & fitting available in 140, 180 & 250mm
- Down take pipes & fitting available in 75, 110 & 160mm

ROOF WATER PIPE (GUTTER)



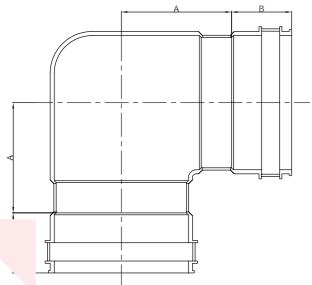
Size D mm	Lenght (Mtr.)	T (mm)
140	3	1.85
180	3	2.45
250	3	3.50

RUNNING OUTLET**



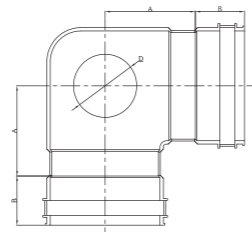
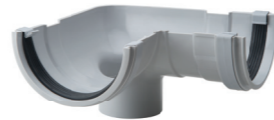
Size mm	A (mm)	B (mm)	H (mm)	D (mm) (Dia)	L (mm)
140	56	56	45	74	230
180	78	78	66	110	323
250	92	92	69	158	420

90° ELBOW (WITHOUT OUTLET)**



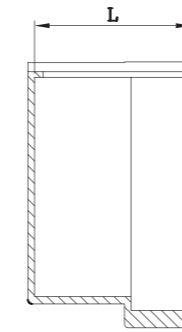
Size (mm)	A (mm)	B (mm)
140	114	59
180	150	78
250	211	92

90° ELBOW (WITH OUTLET)**



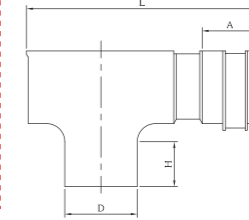
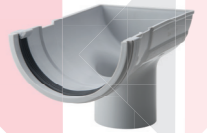
Size (mm)	A (mm)	B (mm)	D (mm) (Dia)
140	114	59	70
180	149	80	104
250	211	92	159

SHORT STOP END**



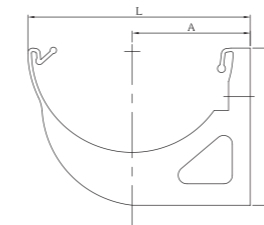
Size (mm)	L (mm)
140	53
180	59
250	82

STOP END OUTLET**



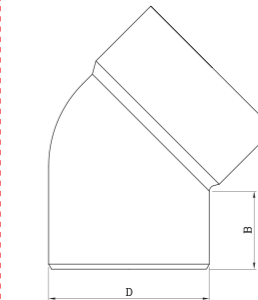
Size mm	A (mm)	H (mm)	D (mm) (Dia)	L (mm)
140	56	46	74	236
180	79	65	110	326
250	86	74	159	420

SUPPORT BRACKET



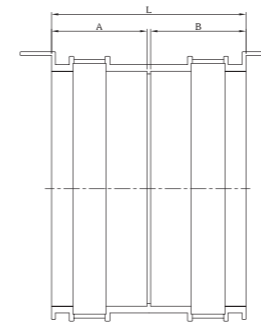
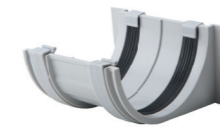
Size D mm	A (mm)	H (mm)	L (mm)
140	82	110	155
180	106	131	197
250	143	180	268

SINGLE SOCKET ELBOW*



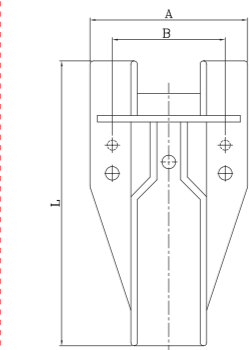
Size (mm)	B (mm)	D (mm) (Dia)
75	48	75
110	54	110
160	88	160

JOINT BRACKET**



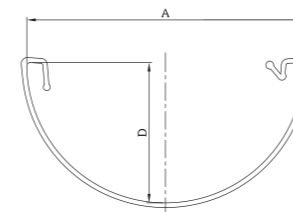
Size mm	A (mm)	B (mm)	L (mm)
140	56	56	115
180	78	78	160
250	102	102	208

TOP BRACKET***



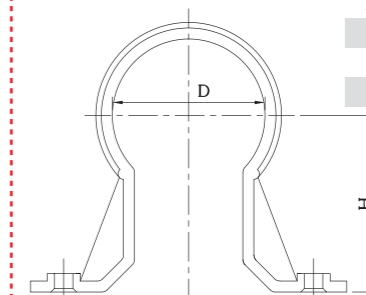
Size mm	L (mm)	A (mm)	B (mm)
140	105	51	38.00
180	131	72	52.00
250	179	82	50.00

CLAMP



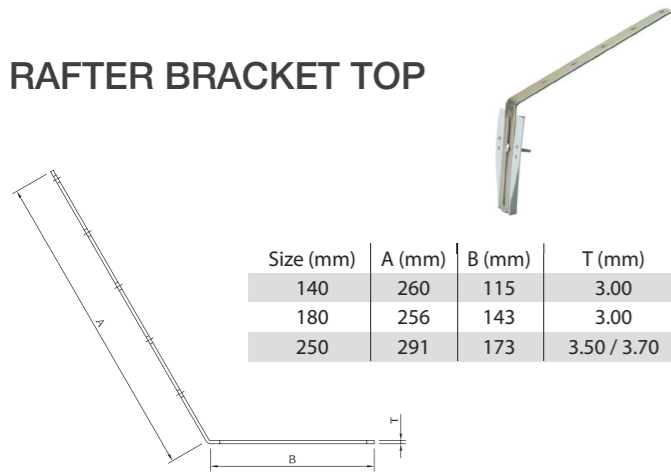
Size (mm)	A (mm)	D (mm)
140	154	76
180	199	99
250	268	143

PIPE CLIP



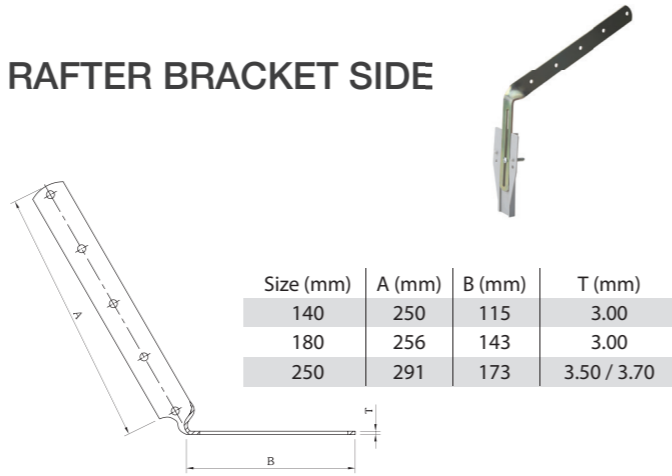
Size (mm)	D (mm) (Dia)	H (mm)
75	75	71
110	110	88
160	159	115

RAFTER BRACKET TOP



Size (mm)	A (mm)	B (mm)	T (mm)
140	260	115	3.00
180	256	143	3.00
250	291	173	3.50 / 3.70

RAFTER BRACKET SIDE



Size (mm)	A (mm)	B (mm)	T (mm)
140	250	115	3.00
180	256	143	3.00
250	291	173	3.50 / 3.70

RUBBER GASKET



RUBBER SEALS



SYSTEM DESIGN

Table (A) - Roof Drain Selection Chart		Average rainfall in mm/hr							
Roof Water Pipe & Fitting Model (mm x mm)	Drain Pipe Outlet Size (mm)	25	50	75	100	125	150	175	200
		Roof area in Sq. Meter							
140 X 75	75	835	418	278	209	167	139	119	104
180 X 110	110	1777	888	592	444	355	296	254	222
250 X 160	160	3999	1999	1333	1000	800	666	571	500

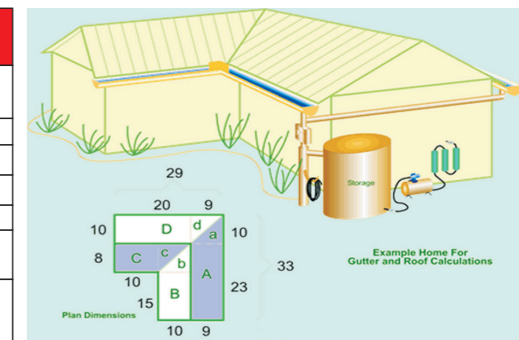
It is very simple to design the system by following the steps below.

- ▶ Calculate the roof area to be used for catchment in sq. mts. - Say "x".
- ▶ Find out the average rain fall in the area as Govt. record in mm/hr.
- ▶ Refer to the roof selection chart (Table - A) & follow the steps below.
 - a) Select the drain pipe outlet size - (Refer - Table - A - Column no - 2).
 - b) Select the reference for average rainfall in you area (Refer - Table - A - Row - No. 3).
 - c) From the above two steps - a & b, find out the max. roof area (in sq. mtr.) that can be drained out by selected drain pipe outlet size (a) for average rainfall selected (b). - Say the roof area is (in sq. mtr.) - "Y"
 - d) To get no. of drains (down line pipe) required - divide calculated roof area (X) by roof area (Y) (in sq. mtr.)
 - e) Position the no. of drains at an equal distance.

ILLUSTRATION

- ▶ How to calculate roof area (A) and length of roof water pipe line (gutter) for a house (as shown in figure - A):

Area	Calculation	Area (Sq. Mtr.)	Gutter length (Mtr.)
Aa.	This is the sum of area A and a. Area A is 9 X 23 = 207 Area a is 1/2 (9 X 10) = 45	252	33
Bb.	Area B is 10 X 15 = 150, Area b is 1/2 (8 X 10) = 40	190	15
Cc.	Area C is 8 X 10 = 80, Area c is 1/2 (8 X 10) = 40	120	10
Dd.	Area D is 10 X 20 = 200, Area d is 1/2 (9 X 10) = 45	245	29
	Total possible roof drain area	807	
	Longest single straight gutter length along area "Aa"		33
	Maximum connected gutter length would be to combine area Dd and Aa at the corner for a maximum total length of (20m+9m+10m+23m)		62



- ▶ Calculated area to be drained (A) = 807 sq. mtr.
- ▶ Consider the avg. rainfall as per govt. record - 75 mm/hr.
 - a) Suppose selected RAINFIT™ roof water system model is - 140 x 75 mm.
 - b) Select the 5th Column for Avg. rainfall of 75 mm/hr.
 - c) With reference to the Table - A - for 75 mm/hr rain fall - 278 sq. mtr. roof area (Y) can be drained out through 140 x 75 mm RAINFIT™ system.
 - d) Divide calculated roof area (A) by drain area (Y) = 807/278 = 2.90 say - 3 nos. of drain (Down line pipes) will be required to drain out the 807 sq. ft. area with 75 mm/hr. rain fall.

Note:- All drains must be positioned at equal distances.

While selecting RAINFIT™ roof water system kindly select appropriate model - smaller the drain pipe diameter; the no. of drain pipes required will be more; on the other hand, larger the drain pipe diameter, the number of drain pipes required will be less.

Notes:

- *Required rubber seals are provided with product.
- **Required rubber gasket are provided with product.
- ***Required top bracket are provided with product.

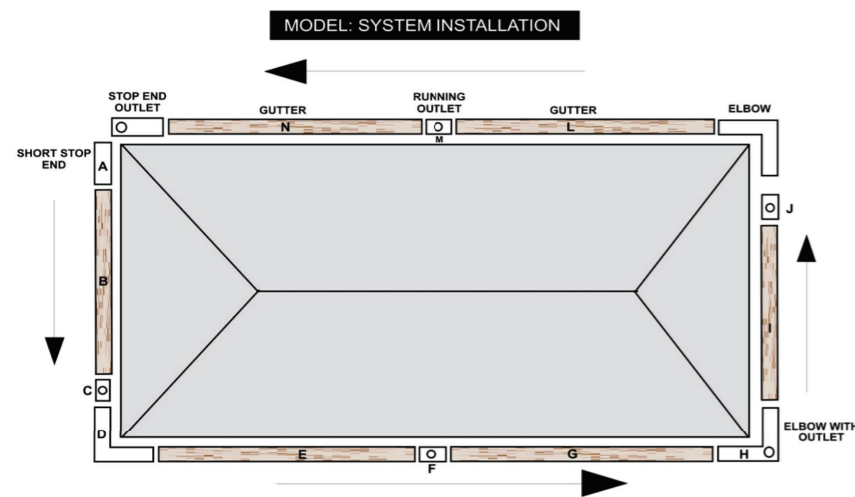
▶ WATER SAVING CALCULATION

FOR EXAMPLE:

- ▶ The total roof top area available for rain water harvesting - 806 Sq. Mtr.
- ▶ Run-Off Co-efficient/Friction for pitched tiled roof/ asbestos sheet roof is - approximately - 0.70 to 0.85 %.

The consumption of water per person in urban India is considered to be 130 liters per day. For a household of FOUR people the average annual demand will be: $130 \times 4 \times 365 = 189800$ liters. The Rainwater Harvesting System (807 m² Roof Area X 75 mm Rainfall / Hour X run-off efficiency) supplies 51 Mts. cube / 51,000 litres. Considering every day consumption to be 520 litres, the harvested water will be sufficient for 98 days, saving 27% of the total annual requirement.

SYSTEM INSTALLATION GUIDELINES



- ▶ Follow the system design guidelines & calculate the area of roof to be drained & number of down line pipes/ drains required.
- ▶ Measurement & material calculations:- All measurement & material calculations can be done on ground level. To calculate the quantity of gutter/fittings required, simply measure around the relevant elevation of the building.
- ▶ Define the positions of down line pipes/drains to the requirement of fittings with outlet.
- ▶ First work out the positions of rafter brackets & install it at the appropriate locations to support joint bracket, running outlet & support bracket. (Support brackets will be required to support the gutter, elbows & stop end outlet).
- ▶ Assemble the gutter on the ground prior to moving them into the position. Assembly may include joint bracket, running outlet, end cap, stop end outlet etc. to customize length required. Ground assembly allows for easy adjustment and keeps working on ladders/sag folds (movable platform) to minimum.
- ▶ Place assembled gutter in to the bracket, align the ends of the bracket with the gap in the small circular profile on the gutter using the palm of the hand, apply gentle pressure until the nose of the bracket clips set fully in to the small circular profile & repeat the procedure for each bracket.
- ▶ Once gutter assembly is installed at its appropriate place, start installation of corners (Elbow-90°). Align the corners with gutter & clamps.
- ▶ Install the down line pipes with single socket elbow & section pipe to outlet end of gutter assembly.

Note:- Gutters must slope towards the down line pipe, so that there is no water stagnation. A slope of 1/2" per 10" in the direction of the nearest vertical down line pipe. It is recommended to fix support bracket within 1 mtr. of both sides of all gutter joints. It is recommended to fix support bracket at both the ends of corners (Elbow-90°) & stop end outlet.

▶ FEATURES & BENEFITS



- ▶ Advanced system design ensures effective collection of roof water and efficient discharge.
- ▶ High mechanical and chemical strength can withstand aggressive environment.
- ▶ Light weight, easy to handle, store and transport.
- ▶ Easy to install. Saves cost.
- ▶ Long service life.
- ▶ UV stabilized, can be installed in areas directly exposed to sunlight.
- ▶ Smooth and glossy appearance gives it an attractive look.

▶ APPLICATIONS



- ▶ Residential buildings/bungalows, warehouses & factory sheds, commercial buildings.
- ▶ Public places such as – railway platform sheds / vehicle parking sheds, hotels, schools, institutions.

Extensively used in:



AUTHORISED DISTRIBUTOR :



Whatsapp No. +91-91670 39334

www.princeenterprise.co.in

PRINCE ENTERPRISE

Add: Kasturi Complex, Gala No.K-1, Anjur Road Rahnal Village, Bhiwandi, Dist - Thane - 421302,

Office No. +91-7410078051 / 52 / 53.

Email: princeenterprise1@gmail.com