

NATURALLY VENTILATED POLYHOUSE and RETRACTABLE POLYHOUSE

One of the most popular types of polyhouses, suitable to all the regions of the nation. There are different types according to region and climatic conditions.

Types: Saw tooth, Quonset, Ridge-Farrow, Even span and Odd Span.

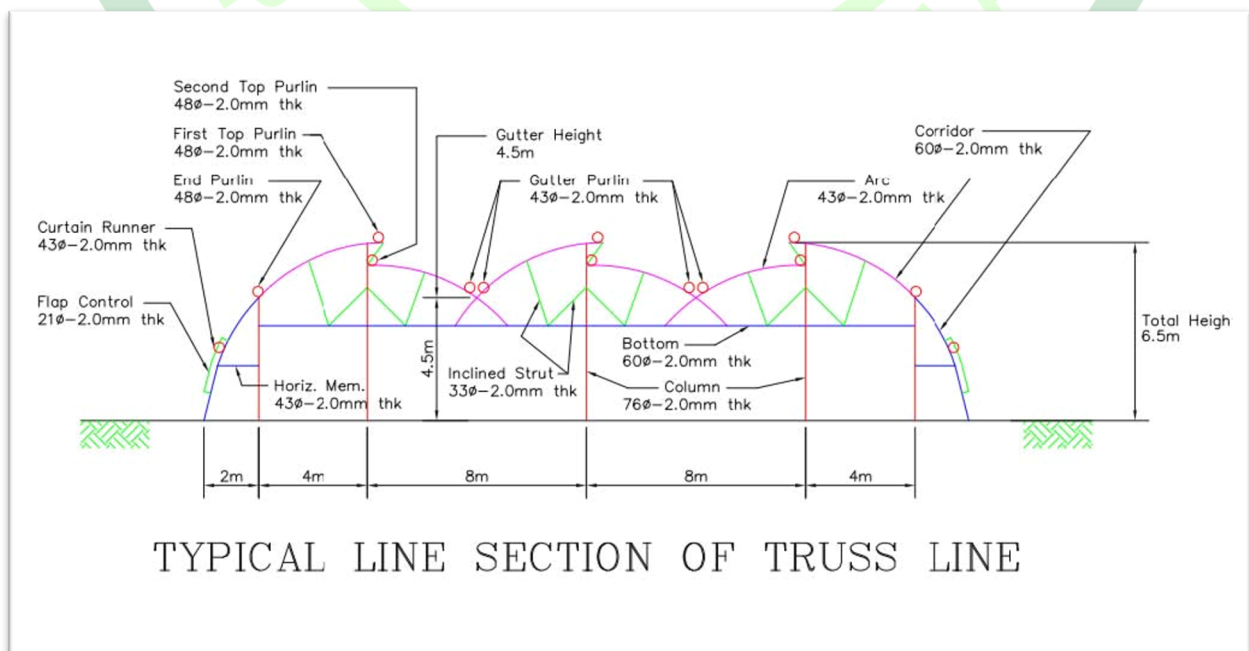
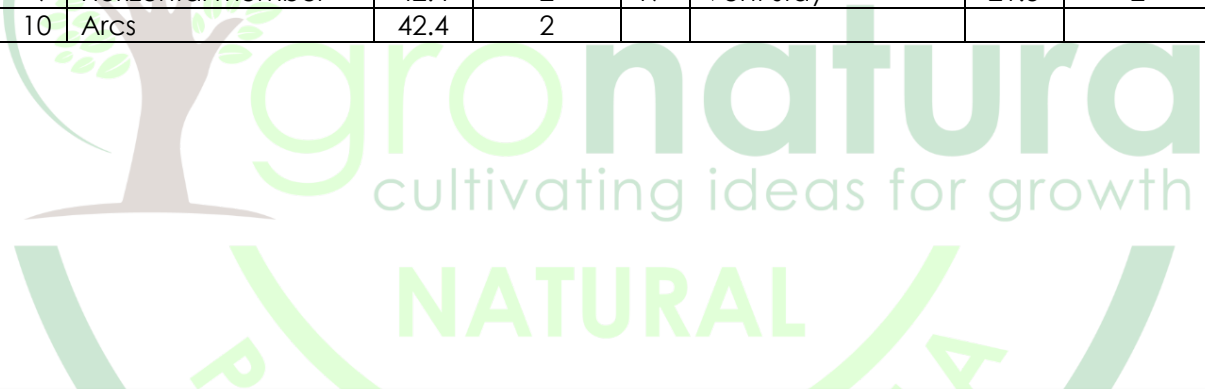
SPECIFICATION OF THE POLYHOUSE

Item	Specification / Standard
Structural Grid	8 x 4 Mtrs.
Height of the Structure (Ridge)	6.5 Mtrs – 7 Mtrs.
Ridge / Roof Top Vent	1.0-1.2 m vertical height and 1.3 to 1.5 m slanting height. Roof ventilator should be provided in slanting position.
Longitudinal slope	1-2%
Side Ventilation	4 meters
Type and Shape	Saw tooth, Aerodynamic from all Peripherals .
Foundation	Crimped / Anchoring with 76mm OD, 2 /3 mm thickness pipe. Foundation should be 100+ cm; PCC/Concrete 1:2:3/ 1:3:6.
Air velocity / Pressure	Air velocity: 110-120 Km/Hr; Least 50 Kg/Sqm. wind pressure.
Live Load / Dead load	live load: Maximum of 25 Kg/Sqm.; Each member of roof should be capable of supporting 45 kg of concentrated load when applied at its centre.
Galvanized pipes	375-400 GSM, Zinc coated GI Tabular pipes, Size: OD: 76.1 mm, 60.3 mm, 48.3mm, 42.4mm, 33.7mm, 26.9 mm, 21.3 mm ... Thickness.: 2mm / 3mm.
Columns	76mm OD, 2mm thick.
Trusses	Bottom cord 60mm OD, 2mm thick; 8 Mtrs. Long, preferably without joints for better load bearing.
Trusses member/ Arch's	50mm OD with 2mm thickness; Bracing 33mm OD with 2.0mm thickness; G.I. Pipe Structural members to be fitted in plated nuts, bolts and washers without welding. (33 mm bracing to increase the strength and to with stand vertical and horizontal pressures.)
Stay/ Hockey pipes	60mm OD with 2mm thickness, fixed in the ground without any joints and welding at a distance of 2-2.5 m.
Purline	48 mm OD with 2.0mm thickness at ridge gutter arch and 42/43 OD with 2.0 mm thickness for 2nd purline.
Purline member and other	43 mm, 2mm thickness
Horizontal bracings	42mm OD with 2mm thickness horizontal bracing 2 No's must provide each bay in both sides.
Cross Bracing	Every 3rd column top to 2nd column bottom of both sides must be connected 42mm OD with 2mm thickness GI pipe to ground the wind load. (In vegetable Poly houses to take the weight of the crop and transfer the wind pressure cross bracings are essential).
Bottom to pillar Bracing	33mm OD with 2mm thickness 1.2m long bracing to be fixed from pillar to bottom.

Nut-Bolts and Connectors	22 Micron Zinc Ferrous coated, Main connectors with 5mm Zinc Coating. M6, M8 and M10, Various sizes Nut-Bolts are used.
Gutter material	Thickness: 1.6mm to 2.0mm ; 450 mm width; GI Sheet with perimeter of 450 mm and with industrial press; 100% leakage proof; 275 GSM (grams per sq.mt.) Zinc coating. FYI: Ensure that proper silicon sealant is applied between gutter joints while installing for leak proof gutter system.
Gutter Slope	1.2 to 2.0%
Gutter height	4.5 to 5 Mtrs.
Gutter orientation	North-South (Default) , Can be changed based on other parameters ie., Wind direction, Latitude, Climate etc...
Rainwater harvesting	Provision of PVC pipe of min 4"-6" diameter with the lateral and ground support pipe with bend should be made, from gutter to ground for collecting rainwater from the roof top. Drainage gutter and end caps to be provided., either at one side or two sides (Highly recommended)
Reinforcement and Anti wind breakers	Multiple reinforcement and anti-wind breakers for the strength of the structure.
Polyethylene film	200 Microns, UV stabilized, Anti-drip/mist, Anti-dust, Diffused / IR blocking (Sulphur resistant for Rose), having minimum 85% level of light transmittance. Agriplast-Genegar (Israel); Agripolyane-Polywhite-3D (France), Politiv (Israel); Greenpro (India)
Polythene fixing	Aluminium profile, PVC coated 2-3 mm thick, Zig-Zag springs.
Shade net	UV stabilized, 50% shade, 115-120 Gsm, Mono net / Aluminet. Manual / Automatic collapsible mechanism.
Polythene fixing	Aluminium profile, PVC coated springs
Side Curtain	200 Microns, UV stabilized Polyethylene. Manual operated crank mechanism
Side Ventilation	40 mesh (115 to 120 GSM), Nylon /Shade, Insect proof nets (UV stabilized), of 4-4.5 Mtrs., height above all four sides upto gutter height.
Side Apron	UV stabilized HDPE woven fabric, 200 GSM thick, for a height of 60cm and 40 cm buried below ground vertically and 20cm horizontally. (HDPE woven fabric of 200 GSM will have more stability and withstand the pressure of upward as well as horizontal wind better than the polythene film)
Entrance Room	Entrance room of size: 4Mtrs x 3Mtrs x 2.5Mtrs.
Entrance room door	2 Mtrs x 2Mtrs, Sliding door, Aluminium/ Polycarbonate sheet.
Trellis	For cultivation of Capsicum, Tomato and Cucumber, GI wire of 80 GSM of 4 mm (8 guage) along the gable & 2.5 mm (12 gauge) along the gutter, to be fixed over the beds in horizontal/ vertical direction.

Tabular GI coated, Pipe Specification,

Sl#	Components	O/D (mm)	Wall thickness (mm)	Sl#	Components	O/D (mm)	Wall thickness (mm)
1	Columns	76.1	2	11	Curtain runner	42.4	2
2	Foundation Stub	60.3	3	12	Knee bracing / Small inclined	33.7	2
3	Corridors	60.3	2	13	Big inclined strut	33.7	2
4	Small bottom chord	60.3	2	14	Top chord runner in Last bay	33.7	2
5	Big bottom chord	60.3	2	15	Cross bracing	33.7	2
6	End purlin	48.3	2	16	Curtain pipe	26.9	2
7	First top purlin	48.3	2	17	Curtain handle	26.9	2
8	Second top purlin	48.3	2	18	Flap control	21.3	2
9	Horizontal member	42.4	2	19	Vent stay	21.3	2
10	Arcs	42.4	2				



POLYHOUSE LAYOUT

