

3. **Selection Method:** Rates of lowest bidder (L1) shall be considered as base rate and RHDS intends to enlist all the technically responsive bidder for the rate contract, subject to matching L1 rates (base rates).

6. **Specification for Poly House:**

Height of Gutter - 4.5 m
 Total Height of greenhouse- 6.5 m to 7.0 m
 Height of top Vent- 1m to 1.2 m
 Bay Size- 8 X 4 m

A. **Structure**

Complete structure made of galvanized steel tubular pipes. The structural member should be joined with fasteners properly. Welding of structure is not recommended.

a) **Frame components (GI pipes):**

S. No.	Description	Specification
1.	Main Column	76 mm OD & 2 mm thick (@ 3.75 kg per meter)
2.	Small column along length	76 mm OD & 2 mm thick (@ 3.75 kg per meter)
3.	Small Column along width	76 mm OD & 2 mm thick (@ 3.75 kg per meter)
4.	Foundation Stub	60 mm OD & 3.0 mm thick (@ 4.20 kg per meter)
5.	Corridor along length	60 mm OD & 2.0 mm thick (@ 2.85 kg per meter)
6.	Corridor along width	60 mm OD & 2.0 mm thick (@ 2.85 kg per meter)
7.	Small bottom chord along length	60 mm OD & 2.0 mm thick (@ 2.85 kg per meter)
8.	Small bottom chord along width	60 mm OD & 2.0 mm thick (@ 2.85 kg per meter)
9.	Big Bottom chord	60 mm OD & 2.0 mm thick (@ 2.85 kg per meter)
10.	Mid poll	60 mm OD & 2.0 mm thick (@ 2.85 kg per meter)
11.	End Purlin	48 mm OD & 2.0 mm thick (@ 2.3 kg per meter)
12.	First top purlin	48 mm OD & 2.0 mm thick (@ 2.3 kg per meter)
13.	Second top purlin	48 mm OD & 2.0 mm thick (@ 2.3 kg per meter)
14.	4 Mtr. gutter purlin	43 mm OD & 2 mm thick (@ 2.10 kg per meter)
15.	Curtain runner	43 mm OD & 2 mm thick (@ 2.10 kg per meter)
16.	6 mtr. gutter purlin	43 mm OD & 2 mm thick (@ 2.10 kg per meter)
17.	Horizontal member	43 mm OD & 2 mm thick (@ 2.10 kg per meter)
18.	Big arc at end	43 mm OD & 2 mm thick (@ 2.10 kg per meter)
19.	Big arc	43 mm OD & 2 mm thick (@ 2.10 kg per meter)
20.	Small arc	43 mm OD & 2 mm thick (@ 2.10 kg per meter)
21.	Knee Bracing and Small inclined	33 mm OD & 2.0 mm thick (@ 1.60 kg per meter)
22.	Big Inclined strut	33 mm OD & 2.0 mm thick (@ 1.60 kg per meter)
23.	Top chord runner in last bay	33 mm OD & 2.0 mm thick (@ 1.60 kg per meter)
24.	Cross Bracing	33 mm OD & 2.0 mm thick (@ 1.60 kg per meter)
25.	Curtain pipe	27 mm OD & 2.0 mm thick (@ 1.30 kg per meter)
26.	Curtain pipe handle	27 mm OD & 2.0 mm thick (@ 1.30 kg per meter)
27.	Flap control pipe	21 mm OD & 2.0 mm thick
28.	Vent stay	21 mm OD & 2.0 mm thick

b) Fixtures and accessories:

S. No.	Description	Specification
1.	Angle Bracket	ISA 40 X 40 X 4
2.	Full angle Cleat	ISA 40 X 40 X 3
3.	Half angle Cleat	ISA 40 X 40 X 3
4.	Flat Patti	25 MM X 5 MM
5.	76 ID Full Clamp	45 mm Width & 2.0 mm thick
6.	76 ID Half Clamp	45 mm Width & 2.0 mm thick
7.	60 ID Full Clamp	45 mm Width & 2.0 mm thick
8.	60 ID Half Clamp	45 mm Width & 2.0 mm thick
9.	43 ID Full Clamp	45 mm Width & 2.0 mm thick
10.	43 ID Half Clamp	45 mm Width & 2.0 mm thick
11.	T-Fixtures	33 mm OD & 2.0 mm thick
12.	L-Fixtures	33 mm OD & 2.0 mm thick
13.	Curtain Clamp	45 mm Width & 2.0 mm thick
14.	Universal Joint	20 mm sq. bar
15.	Stud Cover	21 mm OD & 2.0 mm thick
16.	Curtain Pipe Insert	21 mm OD & 2.0 mm thick
17.	Self Trapping Screw	20 mm length
18.	Bitumen Washer	3.0 mm thick
19.	Spring Insert (Plastic Coat)	2.3 mm dia.
20.	Spring Insert (Plating)	2.3 mm dia.
21.	M 10 X 125	10 mm dia.
22.	M 10 X 100	10 mm dia.
23.	M 10 X 90	10 mm dia.
24.	M 10 X 40	10 mm dia.
25.	M 10 Nuts	10 mm dia.
26.	M 10 washers	10 mm dia.
27.	M 8 X 200	8 mm dia.
28.	M 8 X 90	8 mm dia.
29.	M 8 X 65	8 mm dia.
30.	M 8 Nuts	8 mm dia.
31.	M 8 washers	8 mm dia.
32.	M 6 X 75	6 mm dia.
33.	M 6 X 20	6 mm dia.
34.	M 6 Nuts	6 mm dia.
35.	M 6 washers	6 mm dia.
36.	GI Wire 2 mm	2 mm dia.
37.	GI 33 mm pipe for Apron	33 mm dia.
38.	Pulley with clamp HDPE/ MS	40 mm dia.
39.	Rings stainless steel	20 mm dia.
40.	Nylon Rope	8 mm dia.

c) Door assembly:

Entry Room (2 door of Aluminum and poly carbonate mix)		
S. No.	Description	Specification
1.	Entry room size	4 m x 4 m, 4 m x 3 m, 3 m x 3 m
2.	No of doors	02 (inner door may be of frame stitched with 40 mesh insect net of minimum 50 cm overlapping)
3.	Door size	3 m x 3 m; Door of wire gauge angle framed
4.	Frame of door (ISA four sides to cover the gap below the door)	Galvanized

5.	Half part of door (Downside)	Aluminum sheet
6.	Upper half part of door	Poly carbonate sheet 5 mm thick
7.	Flooring	50 mm PCC flooring over 75 mm thick sub base
8.	Foot wash basin	2 feet x 3 feet x 0.5 feet depth near outer door inside entry room
9.	G Section	3.7 m. Long 40x40m and 5.5 mtr. Long minimum
10.	Roller	Should slide easily in g section
11.	Bottom Pipe	60 mm OD & 2.0 mm thick
12.	Top Pipe	60 mm OD & 2.0 mm thick
13.	Door Support	43 mm & 33 mm OD, 2.0 mm thick
14.	Door Corridor	33 mm OD & 2.0 mm thick
15.	Pipe Half Cut Slider	60 mm OD & 2.0 mm thick
16.	Hinges	60 mm OD & 2.0 mm thick

d) Profile and gutter:

PROFILE AND GUTTER			
S. No.	Part Name	Specification	Description
1.	Profile	Aluminum double locking profile OR double locking GI Profile	200 to 220 gr per running m 300 gr per running m
2.	Gutter, 1.5 to 2.0% slope, max. gutter length upto 92 m.	Plastic drainage sheet (Single piece) OR GI drainage sheet 2.0 mm thick and with industrial press. OR GI drainage sheet 1.20 mm thick with 43mm x 4 Mtr. gutter purlin will be compulsory (Single piece, if supported on arch)	Virgin, UV stabilized 1.4 mm thick and 600 mm wide 500 mm wide
3.	Zigzag spring insert	High carbon steel wire for repeated action, 2.3 mm dia	Pvc coated GI spring over 2 inch strip of new poly film over the main plastic in profile. (25% overlapping)

e) Polyethene:

The applicant firm/manufacturer should submit details of make (s) and quality parameters of the polyethene sheet to be used in green house and tie-up with polyethene supplier (s) on Rs. 500/-Non Judicial stamp paper along with necessary documents regarding quality assurance and specifications of the polythene sheet.

Polyethene specifications	
Description	Specification
Multi-layered Polyethene co-extruded	Fixed properties - 200 micron thick PE film having proprieties like UV stabilized (3 years), Thermic, diffused (>60%) Anti dust, Anti drip, IR Reflective cooling having minimum 80% level of light transmittance.



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For SHRI JI IRRIGATION

Neeraj
Proprietor

	Optional property - Anti sulphur (minimum Sulphur 2000ppm, chlorine 150ppm, Iron 100ppm) for the crops where sulphur consumption is high. For ex - rose cultivation (As per farmer choice).
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f) Shade net and Insect net:

40 Mesh Insect Net Manufactured from 100% virgin HDPE mono Filament with 115-120 GSM, 0.24 yarn diameter, 40x24 Knitting grid with 3 year life Under curtain. Variance(+/-)range of 3to 5% in above mentioned Specifications
50 % Manually movable IS standard IS 16008:2016 White Shade net and mono net with 100 GSM (On top underneath polythene)
35% or 50% IS standard IS 16008:2016 Shade net and mono net with 115-120 GSM on each top ventilation
40 mesh insect net 115-120 GSM, 0.24 yarn diameter, 40x24 Knitting grid with 3year life Under curtain fitted at each side curtain . Variance(+/-)range of 3to 5% in above mentioned Specifications

Importer/ traders supplying shade net /insect net of above standards will also be allowed.

- g) The foundations – Telescopic type.** A pit of 60 cm x 60 cm x 75 cm depth to be filled with concrete in a ratio of 1:2:4 after completing the foundations, 10 days of curing is must.

h) Irrigation System:

- 1) Filter Unit with platform – Sand + Disc Filter 2" , PRV 1.5" , NRV 2" , Throttle valve 1.5" , ARV 1-1.5" , Ventury with manifold 1-2" , By pass Assembly, Flush valve 2" , Pressure gauge (3) with GI fitting accessories.
- 2) PVC Control Valve 2" – All valve will be installed at one place.
- 3) Inline 16mm/ci-2/1-3 lph/30 c.m. - Used only PCND inline 02 nos. for each bed.
- 4) Drip lateral 16mm/ci-2 – Lateral must be fixed with GI wire on top and 4 way Fogger of 10-28 lph flow rate should be installed at 2.5 x 2.5 mtr. Spacing and particle size 80 to 100 micron.
- 5) Micro sprinkler 40 to 100 lph at each top vent of Green house at 4.0 mtr spacing.
- 6) Automation for fogger and micro sprinkler but power supply for controller and pump are responsibility of farmer. Installation of Automation will be on optional basis, no subsidy will be provided and applicable according to the choice of the applicant/farmer.
- 7) Provide Temperature and Humidity metres.
- 8) BIS Standards will be applicable for all the irrigation components.

i) General Terms and Conditions:

- 1) No pipes should be found welded except long bottom pipe (8 m length). Rest all length GI pipes are available in the market.
- 2) The white shade net 50% to be used at the top inside the poly house.
- 3) The apron height must be 1.25 to 1.5 m from ground.
- 4) The apron plastic must be buried in the ground at least 30 cm from ground level.
- 5) The apron plastic must come with 3 year warranty.



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Proprietor.

- 6) The apron plastic must be laminated on both sided.
 - 7) The curtain pipe should be cut near the door in case door is placed at the centre of the side wall.
 - 8) 40 mesh insect net UV stabilized to be used to all the four sides of a poly house.
 - 9) The main column and small column must touch the concrete of the foundation and the foundation pipe should not be visible. In other words, the foundations should be leveled.
 - 10) Supplier should ensure pre-check of green house construction materials for specifications by district officer after supply of materials at site and before erection.
 - 11) If fixtures found rusted the structure will be considered incomplete.
 - 12) In case of top polyfilm fitted to the arches, if the length of top is more than 30 m, then the top plastic to be fitted to arch at every 24 m length by using profile and zig zag spring to avoid flapping of top plastic during winds.
 - 13) Self-drilling screw in profile should not be more than 30 cm apart.
 - 14) While installing the multilayer polyfilm, first ensure that respective layers are facing the right direction as shown on film (e.g. inside out)
 - 15) Provide a sample of one sqm size of polyfilm having manufacturer's identification mark along with batch no. along with test certificate from the manufacturer for each batch
 - 16) Film should be tensioned tightly enough so that there should not be flapping during windy days.
 - 17) The structural design should be sound enough to withstand wind velocity of 120 km/hr. and having trellis mechanism to withstand minimum crop load of 25 kg/m². There should be provision for opening one portion at either side for entry of small tractor /power tiller for intercultural practices.
 - 18) The overall structure should perform satisfactorily in all respects.
 - 19) The logo, brand name and batch no. with code number must be printed at every meter distance on poly films that should not get washed easily.
 - 20) All plastic materials used in the Green house to be tested by CIPET or any other testing institute for quality assurance, if required.
 - 21) For testing of material, the fee shall be borne by the firm as & when required.
 - 22) Roll up Stabilized 200 micron transparent plastic film as curtains need be provided up to 3.5 m height on all sides having manual operated crank mechanism for opening & closing of curtains. Anti-flapping strips are suggested to ensure smooth functioning of the curtain.
 - 23) All ends joints of plastic film need to be fixed with two way aluminum profiles with suitable locking arrangements along with curtain top.
- j) **(Documents to be submitted by bidder during rate contract –**
- 1) Letter from Manufacturer of poly film (Not from distributor or trader) mentioning the properties that a poly film possess and as mentioned in above document with its code number.
 - 2) Warranty letter from the Manufacturer (Not from distributor or trader) for poly film, shade net and insect nets - 3 years
 - 3) Certificate from CIPET for plastic gutters and poly film by Manufacturer.
 - 4) Technical Data Sheet (TDS) Certificate from the manufacturer for Poly films, shade nets and insect nets.

Name of the crop – Rose



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