LIGHT STEEL BUILDING TECHNICAL SPECIFICATIONS

Steel Material	ST 37
Calculation Criteria	TS 648,TS 498,TS 11372
Cementboard	TSEN 634-2
Glasswool	TS 901,DIN 18165
Polystyrene Foam	TS 7316

CALCULATION CRITERIA

- Manufacturing based on considering 90 kg/m² snow load, 90 km/hour wind speed, first-degree seismic zone and three climatic zones.

LOAD-BEARING SYSTEM

- H (carrier) and U (Roof Truss) profiles produced in roll forming machines are made from galvanized steel. They make up building's main frame. In order to join trusses and make the building rigid. Omega purlins produced also in roll forming machines are used

STRUCTURAL STEEL

- On SAP2000, material cross sections are designed and AutoCAD is used to draw building plans. All load-bearing system consists of special H, C, U model galvanized profiles.

PLAN

- Width and length of pre-produced prefabricated buildings are estimated as multiples of 125 cm. Prefabricated buildings are composed of the modulation of 4 different panels including filled, window, transom and door. Heaviest panel is the one with exterior door (90 kg). All architectural drawings and calculations are done by Villa Yapı's technical staff with using AutoCAD and SAP2000.

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PREFABRICATED BUILDING QUOTATION

EXTERIOR WALL (H:2500 MM THICKNESS: 100 MM) CARCASS PANEL

Outer Surface	10 mm thick Cementboard - Tepe Betopan
Inner Surface	8 mm thick Cementboard - Tepe Betopan
Fire Resistance(Euro. Standards)	Fire: B - Smoke: S1 - Falling particles : D0
Heat Insulation	0.21W/mk (8mm)
Fire Endurance Period	TS 1263 (DIN 4102-2)
Junction Components	Galvanized, formed by roll forming machines (1.2 mm.)

Insulation	Çukurova - Yapıpor
Size	80mm x 1250mm 2500mm
Heat Transmission Coefficient	0,044 (W/mk)
Thermal Conductivity Resistance	2,27 R(m2k/W)
Reaction to Fire	Euroclass A1 (TS EN 13501 - 1)k

INTERIOR WALL (H:2500 MM THICKNESS: 60 MM) CARCASS PANEL

Outer Surface	8 mm thick Cementboard - Tepe Betopan
Inner Surface	8 mm thick Cementboard - Tepe Betopan
Fire Resistance(Euro. Standards)	Fire: B - Smoke: S1 - Falling Particles :D0
Heat Insulation	0.21W/mk (8mm)
Fire Endurance Period	TS 1263 (DIN 4102-2)
Junction Components	Galvanized, formed by roll forming machines (1.2 mm.))

Insulation	Knauf - Mineral Wool
Size	40mm x 1200mm 2500mm
Heat Transmission Coefficient	0,044 (W/mk)
Thermal Conductivity Resistance	2,27 R(m^2k/W)
Reaction to Fire	Euroclass A1 (TS EN 13501 - 1)

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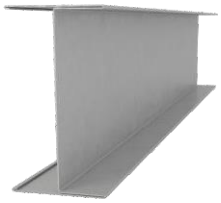
PREFABRICATED BUILDING QUOTATION

WALL JOINT



- Galvanized components such as U and H profiles are bent and joined with each other. Radiuses on edges prevent rusting during sweating

CEILING

Plasterboard

Covering	Dry Area	12mm thick Plasterboard - Knauf

Betopan

Covering	Wet Area	8mm thick Betopan

Plasterboard Joining H

Plasterboard Joining	Ral 9002 painted sheet produced in roll forming machine
	Junction components: Elektrostatic painted galvanized sheet.

Knauf - Mineral Yün

Knauf - Mineralwool	100 mm thick, 1200 mm wide, 8000 mm long
Heat Conduction Coefficient	0.044 (W/mK)
Heat Conduction Resistance	2.27 R(m^2k/W)
Reaction to Fire	Euroclass A1 (TS EN 13501 - 1)

- *It does not contain volatile organic compounds such as Phenol,Formaldehyde*

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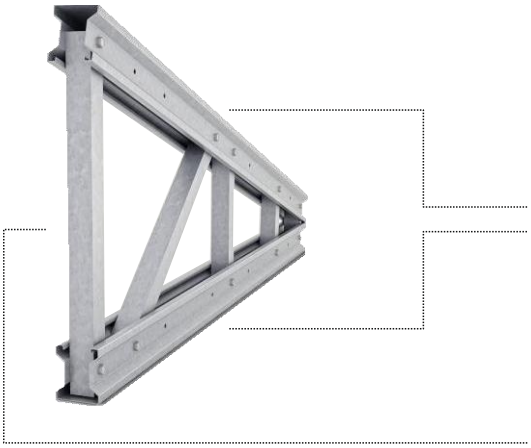
PREFABRICATED BUILDING QUOTATION

ROOFING

- 40 mm - 40 kg/m³ density polyurethane filled sandwich panel

TRUSS



- S320 GD+Z, AZ Erdemir quality No:1322
  System which is designed with special profiles from galvanized sheet .

- Outer Profile
  S320 GD+Z, AZ Erdemir quality No:1322 galvanized sheet. 1.2 mm. thick non-rusting
  50 x 60 special galvanized M profile

- Inner Profile
  S320 GD+Z, AZ Erdemir quality No:1322
  Galvanized sheet
  30 x 30 galvanized box section

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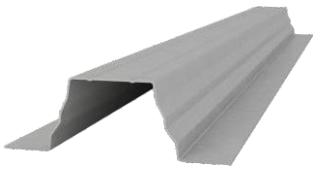
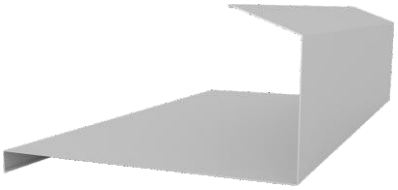
PREFABRICATED BUILDING QUOTATION

PURLINS - EAVES - EAVES TROUGH



Purlin Omega

- 0.8 mm thick purlin omega is manufactured by roll forming machines.



Eave Sheet

- Covered with 30 cm wide special formed Ral 9002 painted galvanized sheet

Alın V'si

- Covered with 30 cm wide special formed Ral 9002 painted galvanized sheet.

DOORS

EXTERNAL DOORS

- 90x198 cm steel door, (TSE standards)

INTERNAL DOORS

- 80x198 cm metal framed American panel door

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PREFABRICATED BUILDING QUOTATION

WINDOWS - GLASS

4+12,5+4 mm
Double-glazing

Ground single glass

Brand	Pakpen
Windows	PVC (TSE standards)
Transom	40/60 cm PVC (TSE standards)
Window Frame	1,2 mm thick galvanized sheet.
Window Profile Width	60 mm - 3 Cells

PAINT

DYO Interior

- Double layer plastic. (TSE standards)

DYO Exterior

- Double layer acrylic (TSE standards)

DYO Ceiling

- Double layer plastic. (TSE standards)

Metal Components	Double layer primers and double layer oil. (TSE standards)

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PREFABRICATED BUILDING QUOTATION

ELECTRICITY INSTALLATIONS

Wire

Socket

Switch

Lightning

Wires	3*2,5 Nym (TSE Standards).
Socket and Switch	With TSE Certification
Lightning	Round Glop
WC-Bathroom	Round Glop
Doors	Glop Lightning Above Doors

- *Electricity installations are made flush mounted.*

SANITARY INSTALLATIONS

Sink

Toilet

Shower Tray

Toilet

Clean Water Pipes	PVC (TSE Standards)
Waste Water Pipes	PVC (TSE Standards)
Sanitary Ware and Armatures	(TSE Standards)

- *Electricity installations are made flush mounted.*

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PREFABRICATED BUILDING QUOTATION

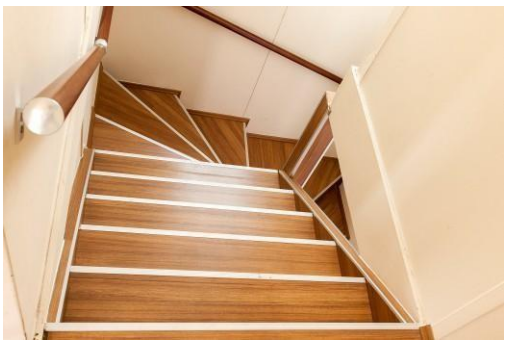
MEZZANINE FLOOR (FOR TWO-STOREY HOUSES)

Mezzanine C

Mezzanine C

Framed Structure	Formed by joining special bent galvanized sheet panels
Thickness	2. mm. galvanized sheet
Topping	16 mm thick Cementboard
Ceiling Floor	12 mm thick Gypsum board
Insulation	80mm thick Glasswool
Load-Bearing Capacity	400 kg/m²

STAIRS (FOR TWO-STOREY HOUSES)



Stairs with timber cover

Framed Structure	Bearing frame made from box profiles
Covering	16 mm thick Cementboard
Fire Resistance (Euro Standards)	Fire : B - Smoke: s1 - Falling Particles: d0
Heat Conduction	0.21 W/mk(16 mm)
Fire Endurance Period	TS 1263(DIN 4102-2)
Paint	Double layer primers and double layer oil
Railing	Box profiles

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