

SPECIFICATION FOR PREFABRICATED LIGHT BUILDING

External and Internal Walls 10 cm CARCASS PANEL

(Fibercement +EPS+ Fibercement)

INTRODUCTION; Prefabricated light buildings employing **weldless construction technology** as its production system can be applied to all kinds of layout plan required in such a way that their widths and lengths will be multiples of 125 cm depending on their intended use. Panel employed measures 1250mm by 2500 mm. Prefabricated light buildings are designed so as to be capable of more than one assembling and disassembling. All architectural planning, design and technical drawings are carried out with ARCHICAD 9 TR, STRUCAD (Structural Steel Detailing System Versiyon-16) and AutoCAD, STA4CAD, ÇELİKPROIV programs, and engineering calculations are performed with SAP 2000 and CFS programs by our technical personnel. All materials used have TSE certification.

TECHNICAL DATA

Snow load	80 kg/m² - TS 498 and TS EN 1991-1-3
Wind speed	102 km/hour (50 Kg/ m²) TS 498 and TS EN 1991-1-4
External wall thermal conductivity	K: 0,37 Kcal/m² hC (K: 0,43 W/m² K)
Internal wall thermal conductivity	K: 0,36 Kcal/m² hC (K: 0,42 W/m² K)
Roof thermal conductivity	K: 0,39 Kcal/m² hC (K: 0,45 W/m² K)
Chassis load capacity	200 kg/m² (for two storey buildings) T.S. 498 (It can be 200/350/500 Kg/m2 according to intended use and type of building pursuant to T.S. 498 .)
Earthquake zone	Effective ground acceleration coefficient : Ao=0,40 (1st degree earthquake zone)
	Structural Importance Coefficient (I =1)
	Live load participation factor (n = 0,3)
	According to intended use and type of building I =1 / 1,2 / 1,4 / 1,5 ,
	Calculated as n = 0,3 / 0,6 .
APPLICABLE STANDARDS	DESIGN & STRUCTURAL: TS EN 1993-1-1, 1-2, 1-8+AC, (EUROCODE 3), TS 11372, TS 498 , TS 648, TS 6793, TS EN 1991-1-1-3, 1-1-4 (EUROCODE 1), TS EN 1998-1 (EUROCODE 8), IMO-01.R-01/2005, Specification for Buildings to be Built in Seismic Zones – 2007
	PANEL CARCASSES, TRUSSES, PURLINS and STEEL CONSTRUCTION:
	Material: DX51D+Z (~St 37) grade no.1311, S250GD+Z grade no.1325, S320GD+Z Erdemir grade no. 1332, S350GD+Z (~St 52) grade no.1335, standard DIN EN 10346-00, structural steel galvanized by zinc coating.
	Production : Galvanized C-/U-section cold-formed profile manufactured from 0,8-2 mm thick sheet steel in the roll forming line in accordance with JIT production system pursuant to TS EN 10162 standard, with 40-300 mm web width.
	Fasteners: Clinch nuts, zinc-plated bolts and nuts DIN 960-961,DIN 935-F,8.8
	Thermal insulation: , Thermal insulation requirements for buildings (8.05.2000)
	Acoustic insulation : TS 187 and TS 854 (DIN 4109)

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		Fire resistance: DIN 4102 Fire classification of construction products and building elements - 2002
	Climate zone	Wall insulation is suitable for 3rd climate zone (K:0,50 W/m ² K). Roof insulation is suitable for 1 st ~ 2 nd climate zone (K:0,40 W/m ² K).
FOUNDATION	Concrete will be applied in accordance with the concrete layout plan (foundation dimensions) delivered by ÖZGE YAPI A.Ş. Foundation design, structural calculations and covering of foundation and floor will be carried out by the EMPLOYER . Building will be anchored to the foundation floor with steel anchor bolts and dowels. Reinforced spread foundation or mesh-reinforced foundation must be prepared over compacted soil.	
EXTERNAL AND INTERNAL WALLS	Panel height	2537 mm
	Wall dimensions/ thickness	1250x2537x100 mm and 1250x2500x100 mm
	Exterior wall surfaces	8 mm fibercement flat board – Class A1 (Fireproof)
	Interior wall surfaces	8 mm fibercement flat board – Class A1 (Fireproof)
	Insulation	80 mm thick polystyrene foam (EPS) - , fire class B1(16 kg/m3)
	Panel Carcass	Vertical girts; 84x50x1,2/1,0 mm C-/U-section cold formed profile manufactured from high standard galvanized sheet steel in the roll forming line (It may range between 0,8 - 2 mm subject to the structural calculations and as required by the construction.) EPS is placed inside the panel carcass in order to prevent heat loss.
CEILING COVERING	Entire space	6 mm fibercement board – Class A1 (Fireproof) or Painted Plaster Board"
	Insulation	80 mm Glass wool blanket
ROOF	Covering	0,45 mm thick unpainted galvanized sheet steel with 27 x 200 mm pitch depth. <u>Black sponge is used under eaves and ridge for isolation.</u>
	Purlin	Angle omega-section (80x50x0,9 mm) profile cold formed from galvanized sheet steel in the roll forming line
	Truss	Located at an interval of 125 cm , exterior and interior profiled special design steel truss manufactured from high standard galvanized rolled sheet steel (thickness of sheet steel changes between 0,8-2 mm according to structural calculations and construction requirements) 150x300 mm PVC louver on the face of exterior trusses for ventilation.
	Eaves	20 cm PVC eaves 150x150 mm PVC louver at eaves to avoid bleeding.
	Gutter and downspouts	Metal gutter and PVC downspouts are included (Breakage that may be resulting from snow is excluded from the scope)
LOAD-BEARING SYSTEM	Composed of panel carcass, mezzanine frame, roof trusses, purlins and diagonals manufactured from S350GD+Z (1335) grade (~ St52) or DX51D+Z (1311) grade (~ St37) galvanized rolled sheet steel in the roll forming line. It is also possible to use by modifying wall thickness and width of profiles or with industrial profiles and DKP/Galvanized column-beam reinforcement and welding/screw/bolt as a result of structural calculations, when required.	

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WALL JOINTS	Building and wall are joined with each other using bolts & nuts, and PVC H Section profiles are used for water-tightness at wall junctures.		
CEILING JOINTS	6 mm Fibercement (Hekimboard/ Boardia) ceiling material is joined using such joining elements as omega profile from galvanized sheet steel and painted aluminum T-profile. (For avoiding corrosion and bleeding).		
ACCESSORIES	Edge omega, omega over panel, face edge coating material, face coating material, window rough bucks, coating material underneath the eaves are PVC (for avoiding corrosion and bleeding) . NOTE: Edge omega, omega over panel, window rough bucks, and face sheet steel are manufactured from galvanized sheet steel according to building structure and construction.		
1st FLOOR FRAME and STAIRS (for two-storey building)	Frame: Galvanized C-/U-profile load bearing beams manufactured in the roll forming line have the adequate cross section to meet structural requirements of building (cold formed, S320GD+Z / S350GD+Z, Erdemir 1332 /1335, DX51D+Z 1311 grade) Floor covering is 16 mm thick fibercement board. Class A 1 (Fireproof). Staircase: Composed of stair stringer, landing and column structure made of C-/U-section steel profiles, bent-steel stairs, box-section stair railings and bolting fasteners.		
DOOR JOINERY	Exterior door frame	External dimensions 845/1960 mm American style sheet steel door (Both sides with chipboard, EPS filler inside 0,500 mm thick prepainted RAL9002 galvanized sheet steel film coated with COIL COATING system.)	
	Interior door frame	External dimensions 840/1960 mm American style panel door	
	Wet area door	External dimensions 720/1960 mm American style panel door	
	Door lock and handle	Exterior and interior door locks are cylindrical (interior doorlocks of housing are mortise locks), door handles are brass or grey metal.	
WINDOW JOINERY	Window (PVC frame)	830/1190 mm , PVC Handle	
	Transom window (PVC frame)	830/ 400 mm , PVC Handle	
GLASS	Double glazed	4+9+4 mm –	
PAINT	Exteriors	2 layers of Silicone based housepaint-	
	Interiors	2 layers of plastic based indoor paint-	
	Other	No primer is required for galvanized cold form truss, purlin, panel carcass and mezzanine frame since weldless technology is used. Note: Paint color should be notified one week before the shipment at the latest by the customer. Otherwise, standard paint colors will be delivered.	
	Non-galvanized metal components	1 layer Rapid primer+ exterior surfaces 2 layers of oil paint -	
ELECTRIC WIRING Surface mounted	Cable	(NYM ,220 Volt , 50 Hz.),	
		PVC cable conduit (16 mmx25 mm) Waterproof cable inside ,	
		Socket outlets 3X2.5 mm ² NYM, Socket lines 4X2.5 mm ² NYM cable	
	Lighting fixtures	Lighting outlets 2X1.5 mm ² NYM, lines 3X1,5 mm ² NYM cable,	
		Normal area	Circular Fluorescent Lamp (for hoses), 2*36 W -1*36 W -2*18 W -1*18 W- Fluorescent Fixture, Fluorescent Lamps

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		Wet area	Glop - IP 44,
		Above exterior door	
	Sockets, switches	Damp places	
	Fuse, fuse boxes	Automatic fuses	
		Fuse boxes	
	Power panel, Weak current installations (Telephone, TV, data), Mainline connections:	Will be provided by the Employer company.	
SANITARY PIPING Surface mounted	Sanitary ware/mixer taps	Wash basins	40x50 cm wall hung wash basin, KÜTAHYA SERAMİK brand
		Was basin and shower taps	ECA YAK, ECA EKOMİKS brand Taps are mounted on the wall in cold water installed wash basins, and taps are mounted to the wash basin in hot water installed wash basins.
		Toilet	KÜTAHYA SERAMİK brand, Toilet with plastic cistern (European WC) Squat toilet (bidet nozzles)
		Shower tray	80 cmx80 cm Acrylic shower tray,
		Kitchen sink	50/100 cm sink is made from chrome material, bottom double cabinet from melamine coated chipboard. Upper cabinet is not available. 100 cm kitchen sink cabinet.
	Pipes	Fresh water	PPRC -
		Sewage water	PVC -
OTHER	Foundation floor must be prepared according to the concrete layout plan provided by Özge Yapı A.Ş. EMPLOYER company shall assume the full responsibility in case it fails to observe the explanations in the concrete layout plan provided by Özge Yapı A.Ş.		

ÖZGE YAPI SAN ve TİC. AŞ. RESERVES ITS RIGHT TO MAKE CHANGES IN ALL TECHNICAL DETAILS THEREOF.

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