

TECHNICAL SPECIFICATION

MODULAR PANEL SYSTEM PREFABRICATED BUILDINGS



GENERAL DESCRIPTION

Buildings with panel system and steel structure are demountable and are designed to allow an easy dismantling and erection for several times. Galvanized bolts and nuts are used for the connections.

TECHNICAL SPECIFICATIONS

STRUCTURAL DESIGN LOADS			
Roof Live Load	75	kg/m ²	
Wind Speed	28	m/s	
Prefabricated Floor Loading Capacity	min 200	kg/m ²	
SUPPORTING STRUCTURE			
Columns	Primer coated cold formed steel columns are provided and these columns will be fixed to the steel floor or foundation by bolts and nuts. Columns will be filled with rock wool during installation.		
Trusses and Purlins	Trusses and purlins are made of galvanized steel sheet profiles and manufactured by the roll form machines with non-welded connection system. Purlins are fixed to the trusses by bolts and nuts.		
Fasteners & Closures	Galvanized bolts, nuts and screws are used for all connections. All closures to be used both inside and outside of the buildings shall be in harmony with the structure and prevent leakage. Closures will be painted in accordance with the wall claddings.		
EXTERNAL WALL			
External Cladding	10 mm thick RAL 9002 painted fiber cement		
Steel Frame	Wall frame track and stud profiles are made of galvanized steel sheet profiles and manufactured by CNC roll form machines with non-welded connection system		
Insulation	Rockwool	80 mm thick	
Internal Cladding	8 mm thick RAL 9010 painted fiber cement		
Polyethylene tape	Polyethylene tape will be applied to external panels to avoid cold bridges.		
External Wall Thickness	100 mm		
Panel Height	2.50 m		
INTERNAL WALL			
Internal Cladding	8 mm thick RAL 9010 painted fiber cement		
Steel Frame	Wall frame track and stud profiles are made of galvanized steel sheet profiles and manufactured by CNC roll form machines with non-welded connection system		
Insulation	Rockwool	50 mm thick	40 kg/m ³ density

Internal Wall Thickness	80 mm
Internal Clear Height	Minimum 2.30 m
Wall Ceramic Tile (Wet Areas)	Excluded
ROOF	
Roof Covering	0.50 mm thick with 27 mm roll depth, galvanized trapezoidal sectioned steel sheets.
Roof Paint	RAL 9002
Eaves	The eaves are 30 cm wide on both long sides of the building
Rain Gutters	Excluded
Rain Gutter Heat Tracing	Excluded
SUSPENDED CEILING	
Type	The ceiling system will be an exposed grid, lay in tile system on a 60 x 60 cm. module.
Dry Areas	9.5 mm thick white coated gypsum board suspended ceiling.
Wet Areas	12.5 mm thick water resistant gypsum board suspended ceiling.
Insulation (Over Suspended Ceiling)	80 mm Rockwool (40 kg/m3)
FLOOR COVERING (FOR ALL FLOORS)	
Screed	The screed which will be done by the customer will be 40 mm – 60 mm thick. The screed shall be leveled, smooth and dry for a proper floor covering. Self-leveling shall be done by the customer unless the screed is smooth
Dry Areas & Wet Areas	2 mm thick PVC based, grey color, welded type floor covering (adhesive, welding wire, PVC skirting included)
DOORS & WINDOWS	
External Doors	
Door Frame	UV resistant RAL 9002 colored polyester electrostatic powder coated galvanized steel sheets. Doors shall be equipped with weather stripping to maintain leak proofing.
Door Wing	UV resistant RAL 9002 colored polyester electrostatic powder coated galvanized steel sheets, 50 mm thick rockwool (100 kg/m3) insulation material in between. Wing thickness is 53 mm.
Hydraulic Door Closure	will be provided in accordance with the attached projects, For double doors, hydraulic door closure will be provided only at the active door.
Push Bars	Excluded
Door Handle and Lock	Metal door handle and cylindrical lock
Internal Doors	
Door Frame	RAL 9002 colored polyester electrostatic powder coated galvanized steel sheets.

Door Wing	RAL 9002 painted American panel covered wooden door.
Push Bars	Excluded
Door Handle and Lock	Metal door handle and cylindrical lock at room doors and toilet lock at toilet doors.
Windows	
Window Frame	UV resistant, RAL 9002 colored polyester electrostatic powder coated galvanized steel sheets.
Window Wing	PVC windows 4+12+4 mm double glazing (frosted glass at band windows) aluminum handle
Fly Screen For Windows	Aluminum framed, plastic wired, fly screens will be provided at the external doors.
Window Mechanism	Large windows will be tilt opening and band windows will be tilt opening type.
STAIRS	
External & Internal Stairs	N/A

SANITARY INSTALLATION	
Sanitary installation shall be finished by the building boundary.	
Installation Type	Installation will be surface mounted
PIPES	
Clean Water Pipes	PPRC
Wastewater Pipes	PVC
Heating Pipes	Excluded
SANITARYWARE	
Toilet and Shower Accessories	Chrome
Wash basin & Accessories	
Wash Basin Type	40 x 50 cm wall type, ceramic
Mirror & Shelve	will be provided.
Liquid Soap Dispenser	will be provided.
Paper Towel Holder	will be provided.
Toilet & Accessories	
Toilet Type	Western type, Self-reservoir, ceramic closet
Toilet Paper holder	will be provided.
Shower Tray & Accessories	
Shower Tray Type	will be provided

Shower Curtain/Cabinet	PVC Curtain with Plastic Pipe
Towel Hook	will be provided.
Soap Holder	will be provided.
Urinal & Separation Panel	Excluded
Taps	Knob controlled
Water Heaters	Electrical installation will be provided
Floor Drain	PVC
Mechanical Installation Materials for Kitchen & Laundry Equipment installation (Water, Gas etc.)	Excluded
Hot Water Installation	Showers only

ELECTRICAL INSTALLATION	
Electrical installation will be provided according to 220/380 Volt, 50 Hz, complying with TSE, VDE or IEC standards.	
Electrical installations shall finish by the building boundary.	
Installation Type	Installation will be surface mounted by cable trunking at panel surface and concealed in ceiling above suspended ceiling by PVC spiral pipes.
Cabling	
Power & Lighting Cables	N2XH
Telephon, Data & TV Cables	n/a
Lighting	
Illumination Density	Minimum value
at accommodation rooms	200 lux
at office & kitchen areas	300 lux
at WC and shower areas	100 lux
at corridors	100 lux
Armatures	
Rooms and Corridors	4 x 18 / 2 x 18 watt fluorescent, recessed
External Doors	Weatherproof glob armature
Wet areas (WC- Shower/ Kitchen/Laundry)	1 x 36 / 2 x 36-Watt U type fluorescent
Switches & Sockets	Switches shall be mounted 1.20 m, sockets shall be mounted 0.50 m above the unfinished floor level.
Power Sockets	16 Amp, 230 Volt, 3 wire, grounded, European Schuko Style CEE 7/7
Switches	10 Amp, 230 Volt
UPS sockets	Not applicable
Circuit Breakers	
Lighting	Minimum 1x10A B type miniature circuit breaker
Sockets	Minimum 1x16A C type miniature circuit breaker
A/C & Water Heater Breakers	Minimum 1x16A C type miniature circuit breaker
Main Distribution Panel	Each building will contain n.1 IP 42 main distribution panel Ground fault current interrupter shall be located before the system circuit breaker on the main distribution panel.
IT & Telecom	Telephone exchange, rack cabins, data switchboards etc. are not in DORÇE's scope of work.
Telephone, Data & TV Socket	Excluded

Electrical installation materials for Kitchen, Gymnasium & Laundry Equipment Installation (Power etc.)	Excluded
Grounding	Electrical installation inside the building shall be grounded. Building grounding and ground rods are not in DORÇE's scope of work.

HEATING, VENTILATION AND AIR CONDITIONING	
Heating	Excluded
Cooling	A/C Split Units (will be provided only electrical installation, excluding units)
Ventilation	Natural ventilation

FIRE DETECTION, PROTECTION AND ALARM SYSTEMS	
Fire Detection & Alarm System	Excluded
Fire Sprinkler	Excluded
Fire Extinguishers	Excluded
Fire Hose Cabinets	Excluded

FURNITURE AND EQUIPMENT	
Furniture	Excluded
Kitchenette	Excluded
Kitchen, Gymnasium & Laundry Equipment	Excluded

MATERIALS CONFIRMITY WITH THE INTERNATIONAL STANDARDS

Structural Steel	EN 10025/S235JR/St 37-2
Galvanize Coating	EN 10346/DX51 D+Z
Bolts and nuts	EN ISO 8673, EN ISO 4032, EN ISO 4032, EN ISO 898-1, EN ISO 898-2, EN ISO 4014, DIN 931, DIN 933, DIN 934
Fiber Cement Board	EN 12467+A2, EN 634-2, EN 13986+A1 Fire Resistance: A1 class acc. to EN 13501-1
Gypsum Board	EN 520+A1, EN 15283-1, DIN 18180 Fire Resistance: A1 class acc. to EN 13501-1
Rockwool	EN 13162+A1 Fire Resistance: A1 class acc. TS EN 13501-1+A1 and DIN 4102-1
PU Sandwich Panel	EN 14509
Rockwool Sandwich Panel	EN 14509 Fire Resistance: A2-s1,d0 class acc. to EN 13501-1+A1,
Paint	EN ISO 6272-1 impact resistance EN ISO 2409 adhesion EN ISO 4624 Surface adhesion resistance
PVC Sewage Water Pipes	EN 1401-1
PPRC Clean Water Pipes	TS 9937, DIN 8078, EN ISO 15874-2
