Pickerings®

Temporary Spaces for Expanding Places

Prima 10 Standard Hire Module

TECHNICAL SPECIFICATION

February 2020

TABLE OF CONTENTS

Pickerings Prima10 modular units can be used for various purposes (commercial, hospitality, government, industrial and education).

The Prima10 modular unit is designed as a light steel construction consisting of a floor structure, a ceiling structure, corner elements and columns. Corner elements connect columns with floor and ceiling structures. External walls of the modular unit are TRIMOTERM FTV fireproof insulation panels 80 mm (Available from 60–240 mm). The orientation of installed panels is vertical.

The construction enables compounding of individual modular units in all 3 dimensions. Longitudinal and transverse directions without limits, vertical direction 4 stories high.

Prima10 modular units can be delivered fully assembled or flat-packed. Fully assembled units are solid enough to enable handling by any ISO means (crane, forklift, spreader etc.). The disassembled Integrum modular units are prepared as flat-packs (trans-packs of approx. 660 mm high) with completely pre-assembled floor section and ceiling section (with all electrical installations built in). The construction of the trans-pack is solid enough to enable transport and handling by forklift up to 4 units at a time.

Standard unit dimensions are adjusted to meet the requirements of all means of transport that are used for the transportation of ISO containers. Land, sea and air transportation is possible.

Up to 40 % saved time due to shorter construction time, faster installation and no fabrication on site. Easy to build and install, Integrum modular units can be assembled and dissembled several times allowing them to be used on many consecutive projects over a long-time period.

Sustainable and durable materials create healthy and pleasant living environment. The modular unit’s effective design life span is circa thirty (30) years with the correct maintenance.

1 Dimensions

Type	Length		Width		Height	
	External	Internal[1]	External	Internal[2]	External	Internal
20’ x 10’	6055 mm	5835 mm	2989 mm	2769 mm	2591 mm	2326 mm

Load-bearing structure

Material:

- Primary structure is made of hot rolled cold formed steel beams in a thickness of 3 mm, steel quality is S355MC (EN 10025-2) and cold formed steel columns in a thickness of 3 mm, steel quality is S350G + Z275
- Secondary structure is made of cold formed steel joists in a thickness of 2,5 - 3 mm, steel quality is S235 and rectangular timber purlins, timber quality is C20
- In each container corner there is a welded corner block in a thickness of 3 – 6 mm, steel quality is S235

Surface working:

- Sand blasting
- Polyurethane coating in a thickness of 110 µm,
  (corrosion class C3M, ISO 12944-2)

Permitted loads (2 storeys high stackable):

- Snow load (characteristic snow load on the ground): sk = 1,00 kN/m^2
- Floor live load: qk = 2,00 – 3,00 kN/m^2
- Roof live load: qk = 0 kN/m^2
- Wind load (basic wind velocity): vb = 25 m/s (terrain category III)

Loads according to EN 1991-1-1, EN 1991-1-3, EN 1991-1-4

Forklift openings:
of dimension 250x90 mm on distance 1200 mm, with Steel sheet metal cover when not in use

[1] Valid for wall thickness 80 mm
[2] Valid for wall thickness 80 mm

2 Floor

Composition:

- **External wainscot:** flat, galvanised (100 g/m^2) and painted (25 µm, EN 10169-1) steel sheet metal in a thickness of 0.5 mm, DX51D (EN 10327)
- **Insulation filling**: mineral wool SF32 in a thickness of 100 mm, λD = 0.032 W/mK (EN 13162), fire behaviour A1 (EN 13501-1), among steel metal transverse supports
- **Vapour barrier**: PE film in a thickness of 80 µm
  Supporting floor: waterproof cement-bonded chipboard in a thickness of 20 mm, fire behaviour A2-s1, d0 (EN 13501-1), formaldehyde content class E1 (EN 13986)
- **Final floor:** vinyl flooring in a thickness of 1.5 mm with welded connections, fire behaviour Bfl-s1 (EN 13501-1), slip resistance DS (EN 13893), electrical behaviour <2.0 kV (EN 1815);
- **Corner element:** PVC profile
- U Thermal transmittance = 0,29 W/m^2K

3 Ceiling

Composition:

- **External wainscot:** flat, galvanised (200g/m^2) and painted (25 µm, EN 10169-1) steel sheet metal in a thickness of 0.5 mm, DX51D (EN 10327), fitted to be slightly convex
- **Insulation filling**: mineral wool SF 32 in a thickness of 100-120 mm, λD = 0.032 W/mK (EN 13162), fire behaviour A1 (EN 13501-1), among wooden transverse supports
- **Vapour barrier**: PE foil in a thickness of 150 µm
  Internal wainscot: chipboard in a thickness of 10 mm, treated with white folio, quality P2 (EN 312), fire behaviour D-s2, d0 (EN 13501-1), formaldehyde content class E1 (EN 13986), joining of chipboards with PVC H profiles
- **Corner element:** galvanised (140g/m^2) and painted (25 µm, EN 10169-1) steel sheet metal (L profile) in a thickness of 0.5 mm, DX51D (EN 10327)
- **Rainwater outlet:** 4 PVC rainwater pipes, diameter 50 mm in corner columns (insulated by mineral wool all around)
- U Thermal transmittance = 0,30 W/m^2K

4 Façade walls

Fire resistant facade wall panel of type FTV_{GS}-80, in-built width 1145 mm, total thickness 80 mm, *CE marked product* (SIST EN 14509:2007/AC:2009), fire behaviour B-s1, d0

(EN 13501-1), fire resistance class EI-60 (EN 13501-1). Five panels fit into long side and two and a half panels fit into short side of the 20' unit and they are fully interchangeable.

Composition:

- **External wainscot:** corrugated, galvanised (140 g/m^2) and painted (25 µm, EN 10169-1) steel sheet metal in a thickness of 0.5 mm, DX51D (EN 10327)
- **Insulation filling:** mineral wool in a thickness of 80 mm (EN 13162), fire behaviour A1-s, d0 (EN 13501-1)
- **Internal wainscot:** flat, galvanised (140 g/m^2) and painted (25 µm, EN 10169-1) steel sheet metal in a thickness of 0.5 mm, DX51D (EN 10327)

U Thermal transmittance = 0,49 W/m^{2}K

5 Partition walls

Partition wall panel of type FTV$_{GG}$-60, in-built width 1145 mm, total thickness 60 mm, *CE marked product* (SIST EN 14509:2007/AC:2009), fire behaviour B-s1, d0 (EN 13501-1)

Composition:

Double-sided wainscot: flat, galvanised (140 g/m^2) and painted (25 µm, EN 10169-1) steel sheet metal in a thickness of 0.5 mm, DX51D (EN 10327)

Insulation filling: mineral wool in a thickness of 60 mm (EN 13162), fire behaviour A1-s, d0 (EN 13501-1)

6 Doors

External or internal AL, *CE marked product* (EN 14351-1), single/double leaf, filled door, equipped with a cylinder lock with 3 keys, door frame made of AL painted sheet metal, made of flat, galvanised (140 g/m^2) and painted (25 µm, EN 10169-1) steel sheet metal in a thickness of 0.5 mm, DX51D (EN 10327) in the AL framework, insulated with Styrofoam in a thickness of 40 mm, fire behaviour E (EN 13501-1), doors are equipped with 3 hinges.

U Thermal transmittance = 1.90 W/m^{2}K

Table 4: AL door dimensions

Name (ordering size [mm])	Clear passage at 90^0 opening [mm]	Clear passage at 180^0 opening [mm]
Single leaf door (705x2060)	600x2000	635x2000
Single leaf door (805x2060)	700x2000	735x2000
Single leaf door (905x2060)	800x2000	835x2000
Single leaf door (1005x2060)	900x2000	935x2000
Single leaf door (1110x2060)	1005x2000	1040x2000
Double leaf door (1805x2060)	1670x2000	1735x2000
Double leaf door (1975x2060)	1840x2000	1905x2000

Optional: glazing 600x800 mm, door closer, door holder, toilet lock, panic lock, panic bar, ventilation grills…

7 Windows

Windows are made of PVC profiles (3-chamber window profiles of thickness 58 mm with double sealing) of white colour, with tilt and turn mechanism (or fixed), glazed with insulation double-layer glass in a thickness of 4/15/4 mm.
U Thermal transmittance Uw=1.6 W/m^{2}K, Ug=1.1 W/m^{2}K.

- Single fold of dimensions 600/600 mm, frosted glass
- Single fold of dimensions 885/1372 mm, equipped with roller shutters
- Double fold of dimensions 1706/1372 mm, equipped with roller shutters

Optional: without roller shutters, window fly screens, safety grilles, better Thermal transmittance, sliding windows, PVC glazed walls…

8 Electrical installations

Standard: IEC-60364
Voltage: 230 V, 50Hz
Network connection:
CEE-connection plug/socket, 3-pole 3x32A, 230 V, IP-44, mounted on the outer wall of the modular unit recessed into top frame in upper corners (EN 60309-1, EN 60309-2)
Inner distribution system:
electric distribution board, NyM-J cables of suitable dimensions (6.0 mm^2, 2.5 mm^2, 1.5 mm^2), flush-mounted (HD 603 S1)
Protection:
protection power supply FI-switch 40/4E-0.03A (EN 61008-1), automatic fuses (B-characteristics) of suitable power, 1+N type fuses 10A and 13A (EN 60898-1);
Earthing:
galvanised connector with a cross clip of dimensions 60x60 mm welded on the bottom frame
Fittings:

- electric distribution surface mounted board IP-40 (dry rooms), IP- 55 (wet rooms)
- ceiling mounted LED lights 8800 lm, IP-54, with Motion light sensor 360˚
- flush-mounted single and double socket outlets 230V/13A, IP-20
- el. connection rubber cable 3x6 mm^2, 1,5 m long, with CEE plug and socket 3x32 A at each end for el. connections between modular units

Optional:

- ceiling mounted LED lights 5200 lm, IP-54, with Motion light sensor 360˚
- switched fused spur outlets 230V/13A
- twin RJ45 type data sockets CAT 6, IP-20 (IEC 60603-7)
- electric water heater of required capacity (5 l, 30 l, 50 l, 80 l, 160 l, 300 l, 500l), IP-24 or IP-X4
- electric extractor fans ∅ 110 mm of air-flow capacity 175 m^3/h and ∅ 156 mm of air-flow capacity 335 m^3/h, IPX4
- electric wall heaters, natural convection type, of capacity 0.50 kW and 2.00 kW, with a thermostat (5-35°C), (EN 60355-1), IP-20, (for dry rooms)
- electric wall heaters, fan type, of capacity 2.00 kW, IP-24, with a thermostat (5-35°C), (EN 60355-1/A13), IP-24 (for wet rooms)
- electric wall heaters 1,0 kW, 1,5 kW and 2,0 kW, AL heating elements, with electronic thermostat and weekly timer, IP-24 (can be used for dry and wet rooms)
- electric split type air conditioners of cooling capacity 2.5 kW (9.000 BTU) or 3.5 kW (12.000 BTU)
- smoke detectors, battery powered
- emergency lighting = emergency downlights, 1-3h battery powered, exit signs… (EN 60598)
- PVC cable channels 30/30 mm, 40/60 mm, 70/130 mm (EN 50085)
- flexible copper cable 35 mm^2 10-m long, for earthing in the field

Note: All electrical works are maximum pre-assembled in factory
Remark: Number and arrangement according to the drawings

9 Sanitary installations (optional)

Distribution of sanitary water:

polypropylene pipes 1/2”, 3/4” and 1”, surface-mounted or hidden in double service wall 1200 mm high, allowed working pressure: max. 6 bar

Waste pipe:

PVC pipes, diameters 50 mm and 110 mm, surface-mounted or hidden in double service wall 1200 mm high

Modular unit connections:

on facade wall or through the floor (service opening 300 x 300 mm); PVC pipe, diameter 50 mm or 110 mm, galvanised (or plastic) pipe 1/2”, 3/4” or 1”

Fittings:

- ceramic toilet pan, with a PVC toilet seat, low mounted flush tank of 9 l capacity (surface-mounted or hidden behind service wall), and toilet roll paper holder
- ceramic urinal, 315 mm, with push button flush valve and an outlet siphon
- ceramic washbasin, 500 mm with an outlet siphon, mirror 600/400 mm and plastic shelf, towel hook and mixing tap
- monolith polyester shower cabin, 770/890 mm or acrylic shower trays 800/800 (900/900) mm with a PVC curtain and mixing shower tap
- plastic floor gully with a 150 mm grate dimension, PURUS or similar type
- toilet cabin with door: length 1100 - 1300 mm, width 800 - 900, height 2085 mm, basic wall of the toilet is a partition wall of SP-40 type in which a door in a width of 650 mm is built-in, equipped with a toilet lock (free/occupied), toilet walls are lifted from the floor by 185 mm, fixed on galvanised and painted bearers
- partition wall between urinals and washbasins, 350x1900 mm

Optional:

- polyester washbasin, 1200 mm long (double) or 1800 mm long (triple) with an outlet siphon, 2 (3) mirrors 600/400 mm with shelve, 2 towel hooks and 2 (3) mixing taps
- acrylic white glass shower trays 800/800 (900/900) mm with a PVC curtain and mixing shower tap
- stainless steel equipment,
- toilets, washbasins and showers adjusted for disabled persons,
- laminated toilet cabins

Remark: Number and arrangement according to the drawings

10 Connection kits between units

- external connection kits include a set of steel metal galvanized screws and consoles and rubber sealing
- internal connection kits include a set of insulated metal vertical and ceiling masks and floor inserts (3 different types possible)

11 Colours

- External: complete steel metal frames and walls are painted in Pebble grey RAL 7032 colour
- Internal: walls are painted in Grey-white RAL 9002 colour, Floor light grey colour, Ceiling white colour
- doors and PVC windows are in white colour

- other standard steel metal frame colours available: RAL 9002, RAL 3000, RAL 5010, RAL 7016, RAL 7035, RAL 9006, RAL 9010
- optional: Non-standard colours per RAL scale are available upon request.

12 Additional fittings available (optional)

- forklift openings of dimensions 90x250 mm in a distance of 2050 mm
- forklift openings of dimensions 90x350 mm in a distance of 1200 or 2050 mm
- ventilation grilles of dim. 140/220 mm for installation into wall panel or door
- decorative steel metal masks (Facia) 400 mm or 500 mm high
- decorative FLAT aluminum mask (Facia) 400 mm or 500 mm high, made of Alucobond boards
- canopy, 1000x1500 mm, 1000x2435 mm, 1000x6055 mm
- stairs with railings, internal/external, one/two flight stairs, landings

Remark: Rights to technical changes withheld.