

INSULATED BUILDINGS FOR AGRICULTURE

FREE FORM FACTORY

15 NOV 2016



WHAT IS FREE FORM FACTORY

- **FREE FORM FACTORY IS A PIONEER MANUFACTURER OF VARIOUS INNOVATIVE BUILDING AND INSULATING SOLUTIONS THROUGH THE USE OF EXPANDABLE POLYSTYRENE (EPS) MORE COMMONLY KNOWN AS FOAM.**



Free Form
BUILD • INSULATE • DECORATE •

PURPOSE OF THIS PRESENTATION

- **TO BRIEFLY INTRODUCE THE AGRICULTURAL SECTOR TO THE AVAILABILITY OF COLD ROOMS AND TEMPERATURE CONTROLLED ROOMS AVAILABLE THROUGH THE USE OF EPS AND/OR POLYURETHANE FOAM TO IMPROVE STORAGE REDUCE SPOILAGE AND INCREASE PROFIT.**

ABOUT EPS

- **ONE OF THE GREATEST FEATURES OF EPS IS ITS ABILITY TO INSULATE FROM HEAT OR COLD DEPENDING ON HOW IT IS APPLIED AND TO MAINTAIN CONSISTENT INTERNAL TEMPERATURES WHICH PROTECT AGAINST THE EFFECTS OF EXTERNAL HEAT**

OUR COLD ROOM SYSTEMS

- **AT FREE FORM WE HAVE BEEN MAKING AND INSTALLING COLD ROOMS FOR USE IN REFRIGERATION, USING PANELS COMPRISING OF EPS FOAM OR POLYURETHANE FOAM ENCASED IN GALVANIZED COATED SHEETING.**

COLD ROOM SYSTEMS CONT'D

- **THE BUILDING CAN BE FITTED WITH A COMPRESSOR CONTROLLED BY THERMOSTAT TO REGULATE AND CREATE THE TEMPERATURE DESIRED BY THE OWNER FOR THEIR SPECIFIC PRODUCT TYPE.**
- **THE SAME BUILDING CAN BE USED FOR STORAGE OF AGRICULTURAL PRODUCE TO MAINTAIN THE RIGHT TEMPERATURE FOR PREVENTION OF PREMATURE SPOILAGE OF FOOD.**

- **GOOD NEWS**

- **EVEN THOUGH THE AGRICULTURAL BUILDING IS AFFORDABLE IN AND OF ITSELF, **FREE FORM FACTORY** CAN RETROFIT EXISTING BUILDINGS FOR MAXIMUM INSULATION AND TEMPERATURE CONTROL**

PICTURE OF OUR COLD ROOM



PICTURE OF OUR COLD ROOM



PICTURE OF OUR COLD ROOM



PICTURE OF OUR COLD ROOM (INTERIOR)

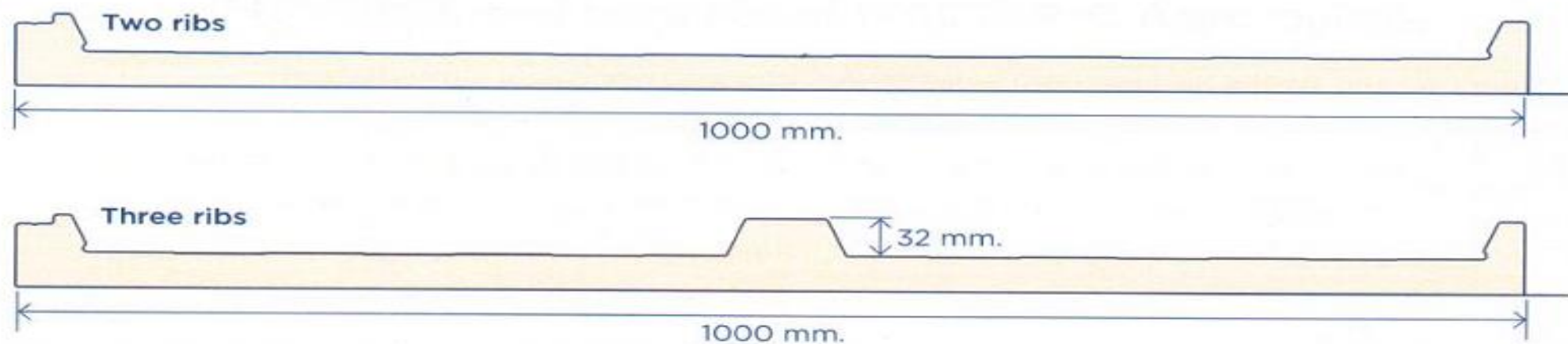


PICTURE OF OUR COLD ROOM (INTERIOR)



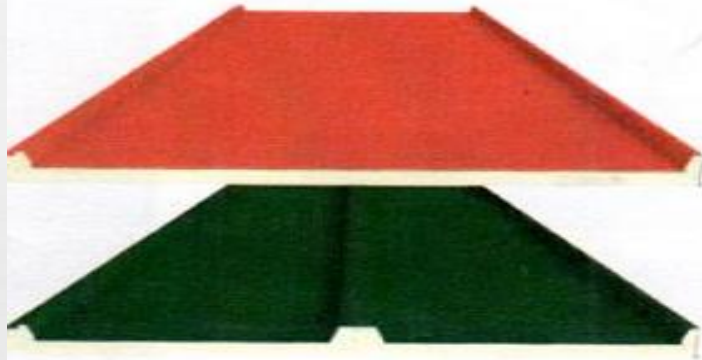
Master-C Agro agricultural panels

MASTER-C AGRO panels have a joint system with steel clamps and a cover cap which hides the fasteners, protects them and ensure the watertightness of the system. There are two different configurations of the outer profile of the panel, with the choice of two-rib panels and three-rib panels. Additionally, MASTER PANEL also offers the option of panels manufactured with PIR (polyisocyanurate) self-extinguishing foam.



Master-C Agro

TECHNICAL SPECIFICATIONS



	VALUES
Panel thickness	30, 40, 50, 60, 80 mm.
Usable width	1.000 mm.
Length	Up to 16,000 mm. (máx. recommended 13,000 mm.)
Field of application	Roofing
Inner face characteristics (Glasliner)	Layer of glass fibre reinforced Polyester
Outer face coatings	Polyester 25um PVDF 25um / 35um Granite HDX / SDP 50
Outer ribbing	Two ribs / Three ribs
Inner ribbing	Smooth
Core type	Polyurethane (PUR) Polyisocyanurate (PIR)
Core Density	40 Kg/m ³
Thermal Transmission	0,022 W/m ² °C
Tensile strength	> 0,080 Mpa
Compressive strength	> 0,100 Mpa
Water permeability	Class A

Functions and benefits of MASTER-C Agro panels

- High thermal insulation capacity
- High mechanical strength
- The fasteners are hidden and protected
- High dimensional stability
- Water vapour tight
- Resistant to aggressive environments

- A versatile material that allows any configuration
- Quick to install and easy to maintain (easy to clean)
- Easily removable and can be reused
- Made-to-measure, avoids waste
- Made with recyclable materials

Details of overlap:



Panel thickness	Weight 2 ribs	Weight 3 ribs	Thermal transmission	
mm	kg/m ²	kg/m ²	Kcal /m ² h °C	w/m ² k
30	6,94	7,12	0,58	0,66
40	7,34	7,52	0,46	0,53
50	7,74	7,92	0,38	0,44
60	8,14	8,32	0,32	0,37
80	8,94	9,12	0,24	0,28

Inner face specifications (Glasliner)

PROPERTIES	VALUES	TESTING METHOD
Bending strength	40 Mpa	UNE EN ISO 14125
Flexural modulus	3100 Mpa	UNE EN ISO 14125
Tensile Strength	40 Mpa	UNE EN ISO 527-4
Tensile Modulus	3700 Mpa	UNE EN ISO 527-4
Barcol Hardness	30 UB	UNE EN ISO 53270
Water absorption (%)	0,2	ASTM D570
Standard weight (Kg/m ²)	0,76	

Permissible loads (kg/m²)

Panel thickness	(L) Span Distance in cm. Calculations based on panel 0,50mm.					
	150		200		250	
	2R	3R	2R	3R	2R	3R
30	126	150	102	123	72	90
40	144	168	120	144	90	114
50	162	186	138	162	102	126
60	180	204	156	180	120	144
80	240	264	216	240	168	192

*Load uniformly distributed over 3 or more supports (E ≤ L/200)



*Thank
you*



FOR YOUR ATTENTIONS

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757-2395 or visit our website at
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