



durathermsips®

reuse Innovation
POWER Recycling
Maintenance Installation SUSTAINABILITY
Design
INDOOR ENVIRONMENTAL QUALITY
Reduce Recovery
QUALITY ASSURANCE
Production



Duratherm Building Systems S.A. de C.V.

TECHNICAL SPECIFICATIONS:

A. GENERALS:

Description of the technical characteristics and performance of "Durathermsips", their structural use and their insulating characteristics are here defined.

"SIPs" is an acronym for "Structural Insulated Panels". They are used for walls, ceilings, floors and mezzanines Panels:

This product is manufactured for applications as eco-friendly walls, ceilings, roofs and floors, and form the backbone of high performance low energy building system, in commercial, residential or multi-family projects.

Each piece for wall, ceiling and floor structures are manufactured as a sandwich of two flat fiber cement boards laminated to a high density expanded polystyrene core "EPS" may be 19 kg/m³ or 26 kg/m³ panels. SIPs are manufactured under controlled conditions and can be adjusted to almost any building design such as;

- Single Family or multi-family residential buildings
- Building public areas and private offices
- Industrial buildings
- Hotels, Assisted living, Hospitals.
- Schools, Shops, etc...

B. DIMENSIONS.

The nominal dimensions for the panels "Durathermsips" for structural walls, ceilings and floors are:

Table 1 -. Structural insulated walls and slabs Dimensions and weight.

Structural Insulated Panels for Walls "Durathermsips"				
Width (feet)	Length (feet)	Thickness (inches)	Ft ²	Weight (Lbs.)
4	8	4	10.6	156.5
	10	4	13.2	196
	12	4	15.8	233.7

Rated from 25.8 kg / linear m of panel weight, equivalent to 21.16 kg/m²

Structural Insulated Panels for Roof "Durathermsips"				
Width (feet)	Length(feet)	Thickness(inches)	Ft ²	Weight (Lbs.)
4	8	6	16	163.3
	10	6	20	204.1
	12	6	24	243.6

Rated from 39.34 kg / linear m of panel weight, equivalent to 32.25 kg/m²

C. DESCRIPTION THERMAL CAPACITY.

"Durathermsips" for walls, ceilings and roof panels offer R-values starting at 22, providing insulation, from heat and cold and also acoustic qualities for sound proofing your walls and ceilings. Achieving unsurpassed energy efficiency ((up to 10 degrees centigrade cooler than the outside temperatures in hot climates, and reducing your heating costs up to 70% for colder climates) all the time protecting the environment.

NMX-C-460-ONNCCE-2009 See heat resistant panel for walls and slabs.

D. TECHNICAL VALUES:

Durathermsips are used as walls, ceilings and roofs, for better interpretation define as the Type I for wall and Type II for roof & ceiling. The fiber cement panels of 5/16inch thickness or greater, attached to both sides of a core of expanded polystyrene (EPS) of specific density working together as an element that creates a monolithic piece of certain features, its design specific characteristics they are suitable building "Durathermsips" durable material with the following characteristics.

See charts of values for panels type I for walls and II for roof and ceilings, interpretation of the results taken by the certification. Reference NMX-C-405-1997-ONNCCE

Values for Type I Panels for walls.

Specs	Values obtained
Compression strength Minimum Specification: 5 Kg/cm2	Load applied within tolerances f = m *: 16.116 Kg/cm2
Lateral load resistance: Owing to resist a minimum lateral load of 1.5 t per meter length of wall. Specification minimum of lateral load: 1 857Kg/cm2	<ul style="list-style-type: none"> Lateral load applied or equal to 8.11 t 6kg/cm2 Compression load apply: 6,780 Kg Compressive stress applied 5.06Kg/cm² Lateral load applied 8,113Kg Effort applied lateral load 6.04 Kg/cm² Def. diagonal direction of loading: 1.34 mm Def. diagonally opposite to the load: 0.116 mm
Fire resistance at 550 degrees Celsius for one hour	Fire resistance of 1 hour at a temperature of 823 K (550 ° C) <ul style="list-style-type: none"> No flame or smoke produced and received a load of 17 tons without breaking
Pendulum impact resistance of 50kg on the wall Specification: instantaneous deformation recovery of less than 10mm and 100% after impact.	<ul style="list-style-type: none"> Recovery 97,36 % No failure was recorded.
Load resistance for roof 100kg/cm2 Specification: must withstand a load of 100 kg/m2 and recover from deformation to remove load.	Deflections of tolerance <ul style="list-style-type: none"> Total load applied: 286.0 Kg Arrow specified maximum (L/360) 6.4mm Deformation total 2.15mm Deformation remaining 0,4233mm Recovery 79.43%

Values for Panel Type II Roof or ceiling.

Specs	Values obtained
Bending strength according to the rules of applied live load DF 300kg/m² Specification: must withstand without exceeding a deflection of L/360 and recover from deformation.	Deflection of tolerance <ul style="list-style-type: none"> • Test Load: 300,0 Kg/m² • Total deformation without against arrow: 3,99 mm • Remaining deformation: 0,363 mm • Maximum deflection specified (L/360): 6.4mm • Recovery: 91.0%
Impact Resistance 50kg a distance 1.5mts Specification: Low to recover momentary deflection L/360 and retaining its structural integrity	No failure was observed <ul style="list-style-type: none"> • Deformation to impact: 35.49 mm • Deformation remaining: 0.596 mm • Deformation permissible: 6.42 mm • Recovery: 98,33%
Fire resistance 550 degrees C Test of fire resistance for 1 h, at a temperature de 823 K (550°C), with preparation of a treatment of (basecoat)	<ul style="list-style-type: none"> • No toxic fumes or flare was recorded • Unconfined compressive strength of the specimen witness: 28.5 Kg/cm² (without breaking the wooden structure) • Unconfined compressive strength of the test specimen: 16.4 kg/m² (without breaking the wooden structure) • Relative Degradation (42.5%) informative

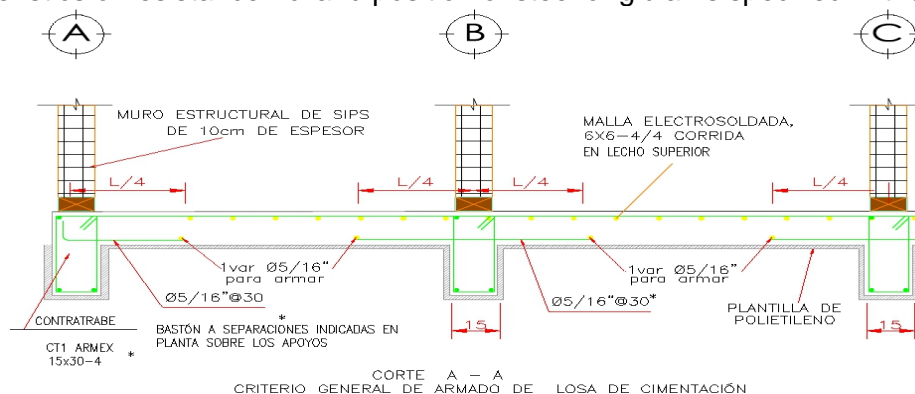
E. MODULATION

The modulation of the project for "Durathermsips" is very important because this allows the construction system to be more efficient in the amount of required materials, construction time, labor, and ultimately generates less waste while lowering costs.

It is up to the construction project and it is from this as the dimensions of the building are defined, and give us the result of the number of panels for wall and roof. The method takes into consideration the modulation, the standard measurements already described for panels modulating from multiples of 1.22cm long. The goal is to reduce labor and material costs by choosing sizes of doors windows and walls that offer economy of cost while maintaining the architectural integrity of design desired by the client. Compliance with local building regulations, and safety is generally surpassed.

F. Foundation

We recommend a foundation slab designed in accordance with the structural calculations determined by referencing local soil tests, building weight, and geometry of uses. Respecting the characteristics of resistance F_c and position of steel or glulams specified in the project.





Duratherm Building Systems S.A. de C.V.

It is environmentally friendly, secured an envelope of insulation that can be hermetically sealed allowing savings from 50 to 75% in energy costs. It reduces CO2 emissions in the process of manufacturing and construction; furthermore, it reduces waste and uses no potable water after the foundation.



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ECOLOGICO



A PRUEBA
DE FUEGO



RESISTENTE
A LA HUMEDAD



SEGURO EN
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