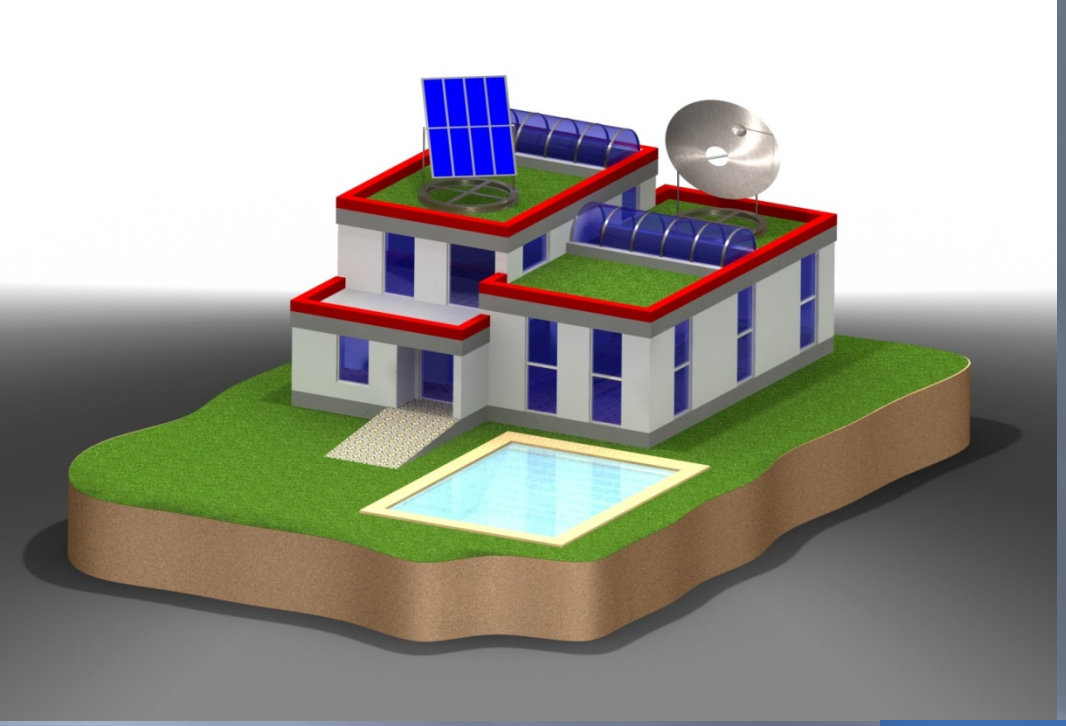

SC FOLEX SRL ROMANIA
CUI NR RO1764634;
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Prezentarea produsului: **CASA PASIVA SI ANTISEISMICA**

Produsul este format din:

1. Elemente pentru fundatie izoterma din spuma poliuretanica;
2. Zidarie portanta compusa din elemente “blocuri spuma poliuretanica finisata” (BSF);
3. Plafon ;
4. Ferestre cu dublu termopan in rama din spuma poliuretanica (finto legno);
5. Sisteme de aerisire cu recuperarea caldurii (frigului).

1. Elemente pentru fundatie izoterma din spuma poliuretanica.

In anul 2009 a fost depusa o cerere de brevet pentru protejarea aceste element in Romania care va fi extinsa international.

Descrierea produsului:

- este un element modular, elementele de fundatie contin trei elemente principale: un element in forma de U, un capac si un element de colt.

Procedura de lucru: se sapa la adancimea de fundare 120-150- 200 cm , se compacteaza solul dupa care din aceste elemente modulare se realizeaza prin imbinarea lor cofragul de fundatie. Se aseaza armatura, se pun capacele si se toarna betonul.

Timpul necesar pentru realizarea unei fundatii este cel mult 10 ore pentru o suprafata de 200 – 300 mp, 3-4 muncitori.

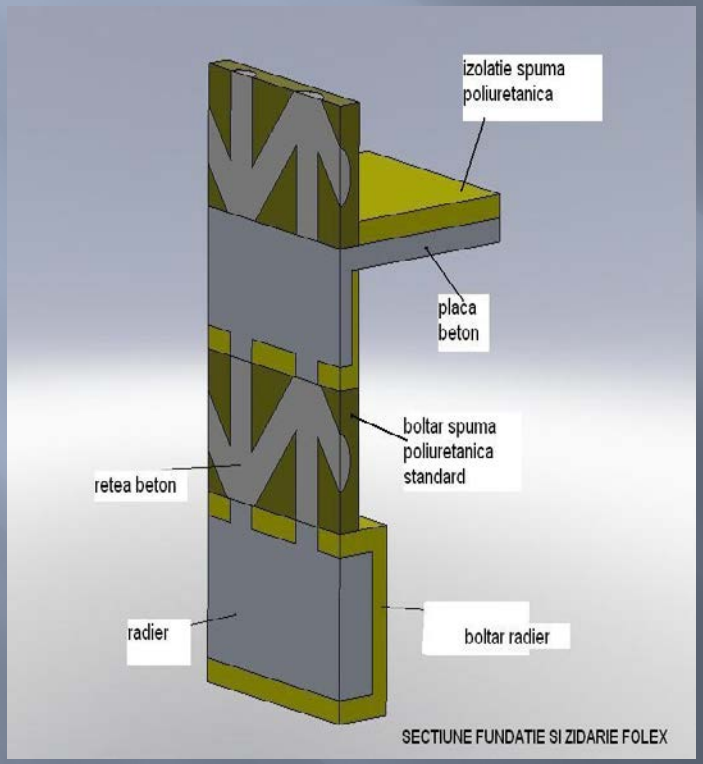
Avantaje:

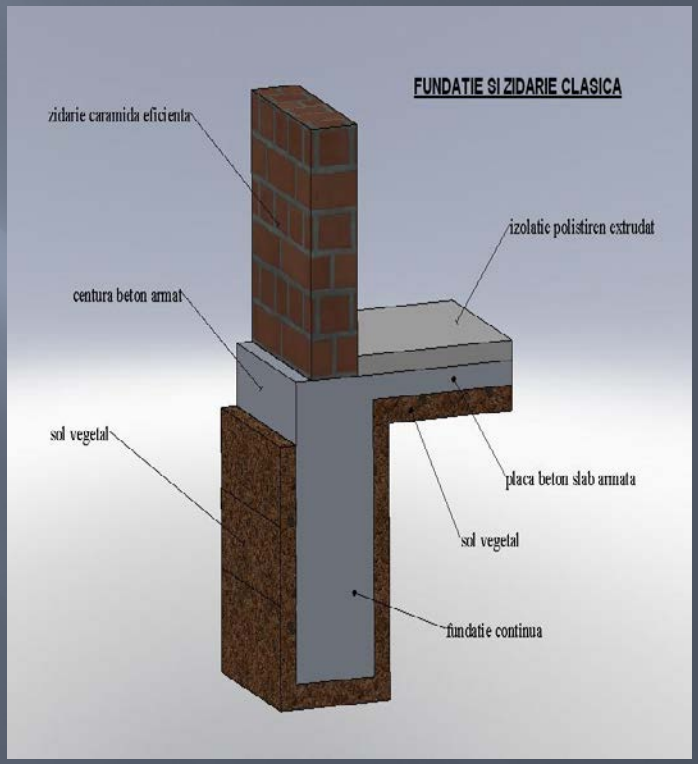
-Viteza de lucru foarte mare cu precizie exceptionala, cantitati precise de beton. Densitatea spumei poliuretanice se adapteaza in functie de conditiile de sol de la 100 pascali la 500 de pascali daca este cazul astfel incat rezistenta spumei poliuretanice sa fie aceasi sau mai mare decat a solului.

-Astfel de fundatie nu este atacata de aciditatea, salinitatea si umiditatea solului astfel incat calitatea betonului nu are de suferit cu trecerea timpului.

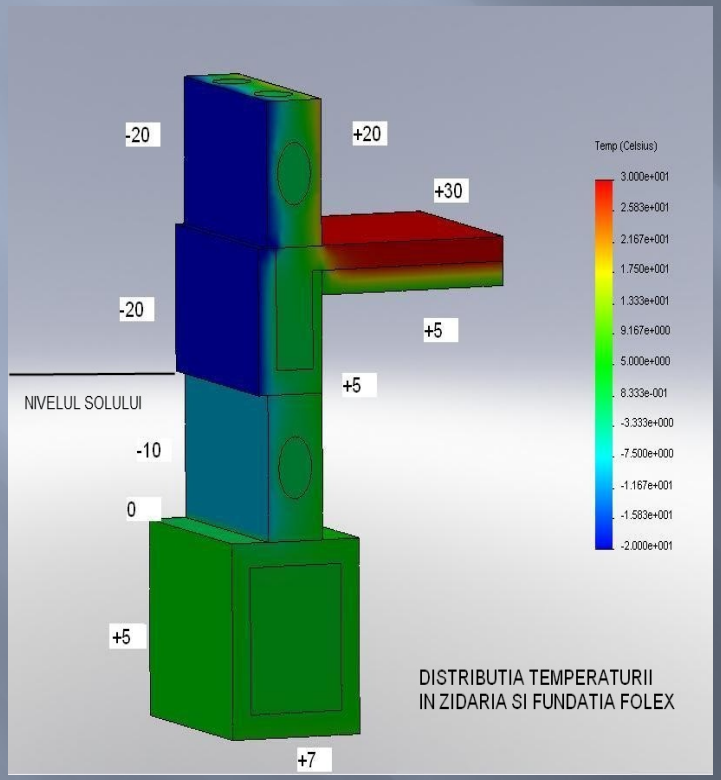
- Cladirea este izolata termic atat in timpul iernii in zonele friguroase (in Romania se pierd aproximativ 100 de Watti pe mp in zilele friguroase la fundatiile clasice – in cazul nostru pierderile nu depasesc 5 Watti pe mp) cat si in timpul verii cand in unele zone temperatura solului depaseste 40-50 de grade, caldura neputand patrunde din sol in interiorul casei (unde se presupune ca exista aer conditionat).

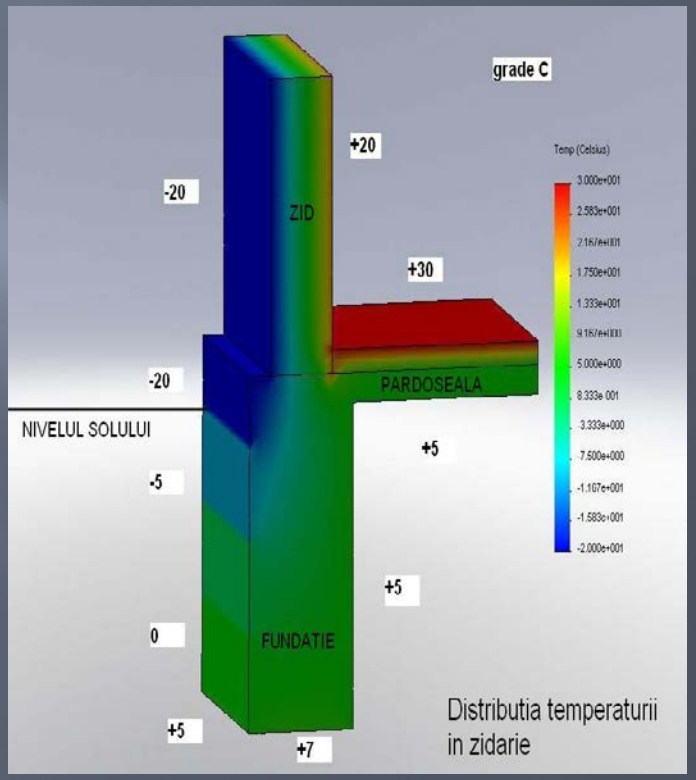
Cele trei poze ce urmeaza demonstreaza *eficienta* acestui tip de fundatie izoterma. *In prima* poza se poate vedea descrierea elementelor:



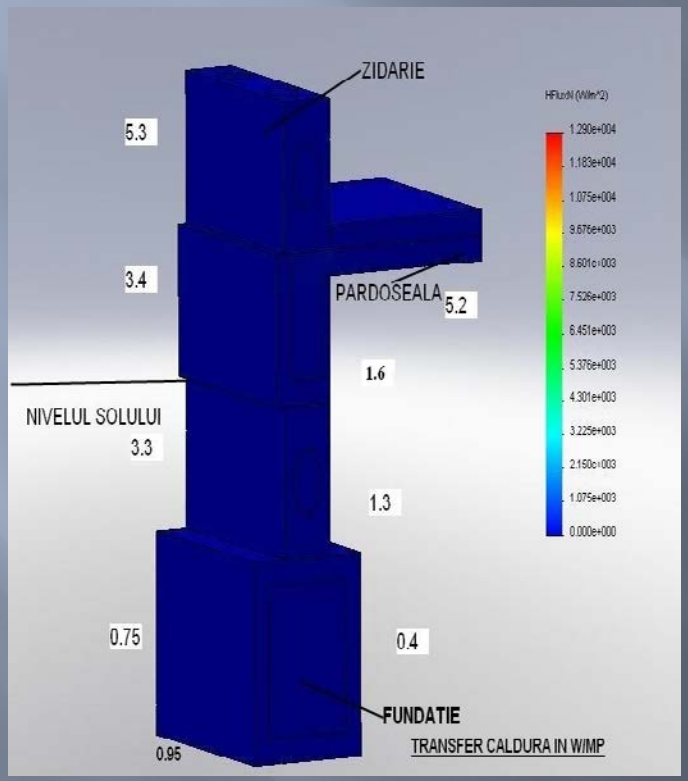


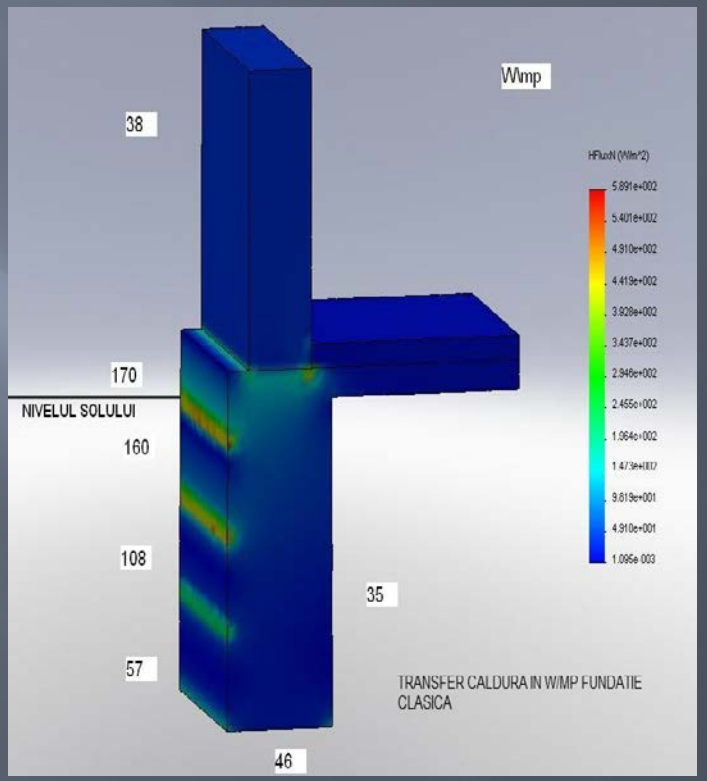
In cea de-a doua este variatia temperaturilor la o diferenta de -20 grade exterior si + 20 grade interior :





Iar *in cea de-a treia* poza vedeti fluxul de temperatura in watti/mp





2. Zidarie portanta compusa din elemente "blocuri spuma poliuretanica finisata" (BSF)

Produsul este protejat printr-un brevet national (A/00806/2005) si international in curs de extindere (momentan este valabil in Eurasia Nr. 012548 WO 081233/2007). Brevetul este un PCT care este in curs de extindere pe urmatoarele zone: Europa, Japonia, China, USA, Canada, Coreea, Norvegia, Israel, Eurasia (Rusia, Ucraina, etc.)
In cele ce urmeaza se prezinta filmele pe zile ale procedeului de construire:
Ziua doi: Zidarie parter.

http://www.folex.ro/index.php?pagid=29&movid=6

Ziua trei: Asamblare grinzi si boltari de centura.

http://www.folex.ro/index.php?pagid=29&movid=8

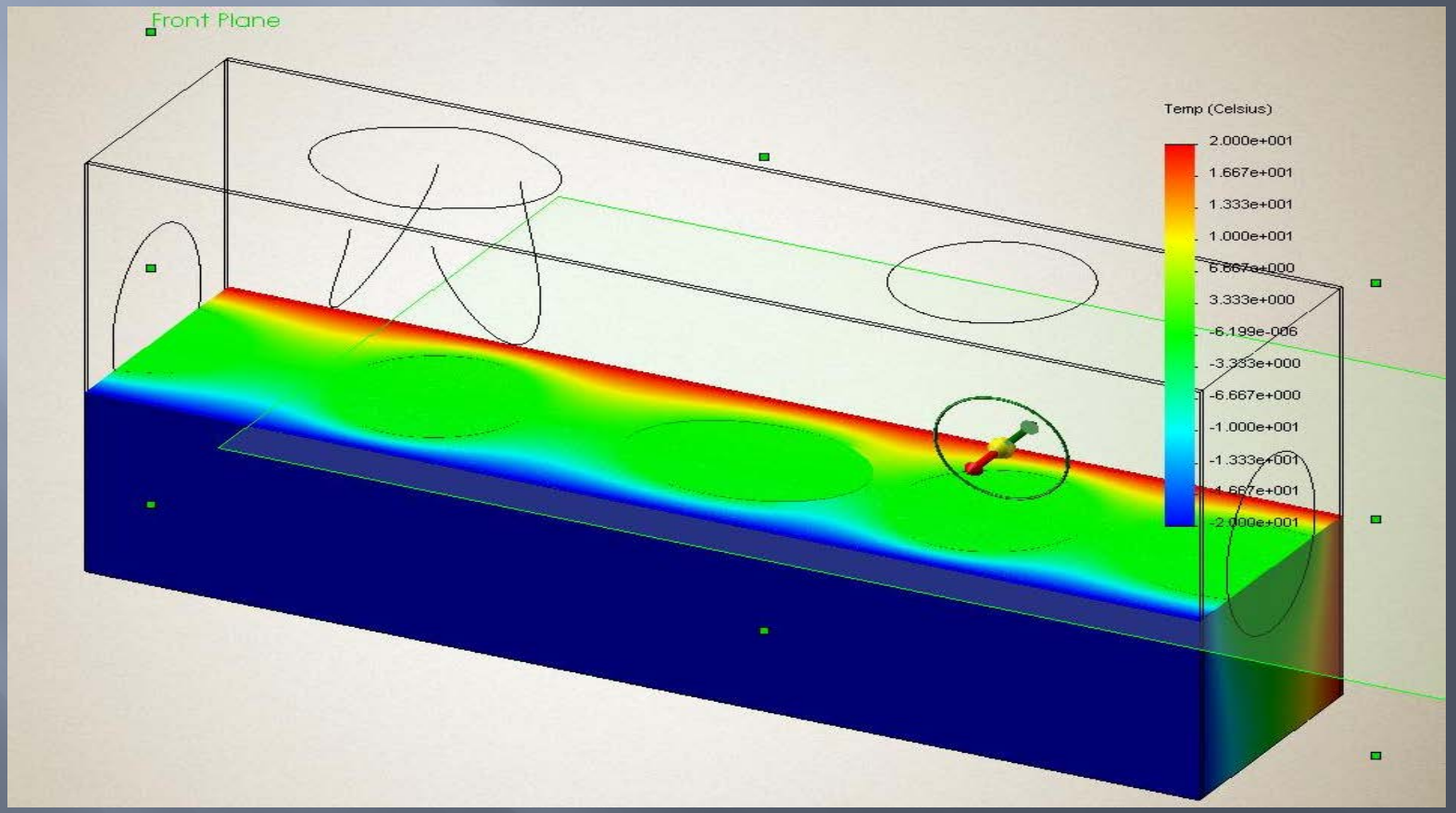
3. Plafon

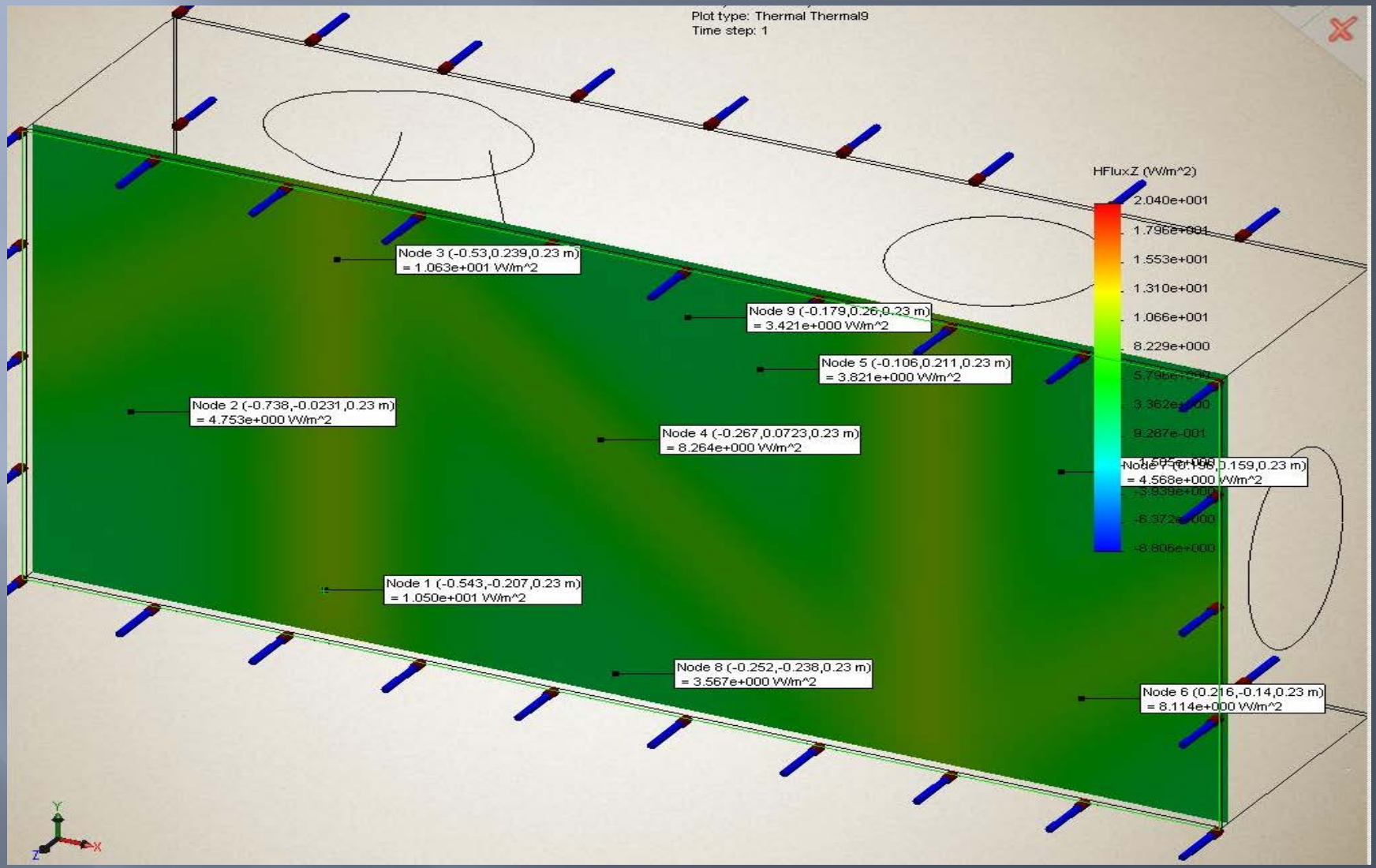
Ziua patru: Asamblare grinzi, armare si turnare placa planseu

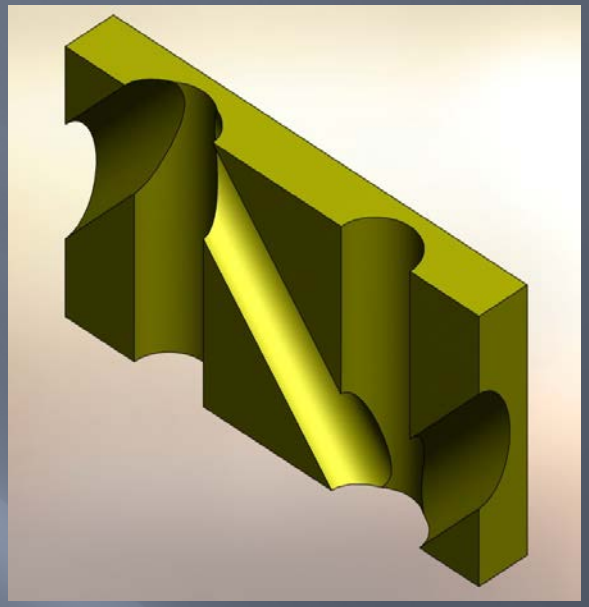
http://www.folex.ro/index.php?pagid=29&movid=9

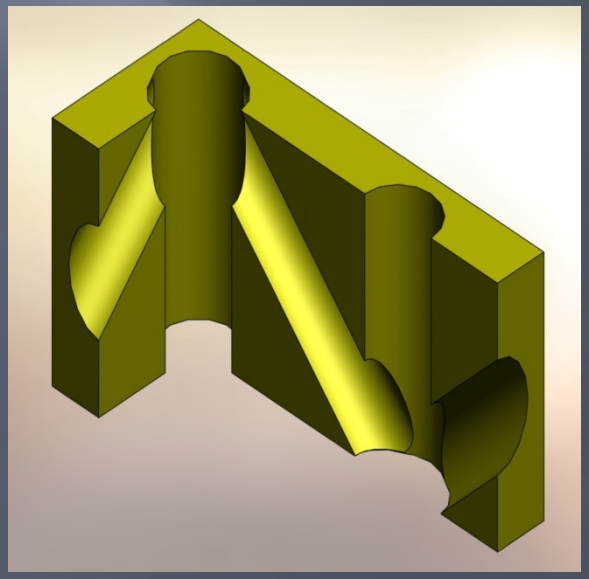
In agrementul tehnic pot fi vazute elementele de zidarie si de plafon, descrierea metodei de constructie, descrierea armaturilor si a modului de imbinare a armaturilor, descrierea grinzilor de plafon, incercarile mecanice la compresiune si forfecare ceea ce dovedesc calitatile antiseismice ale caselor.

In cele ce urmeaza atasam pozele cu transferul termic (-20 grade exterior/+20 grade interior) si fluxul termic la un BSF standard cu structura de rezistenta inclusa (beton si armatura):




Plot type: Thermal Thermal9
Time step: 1
HFluxZ (W/m^2)
2.040e+001
1.796e+001
1.553e+001
1.310e+001
1.066e+001
8.229e+000
3.362e+000
9.287e-001
-6.372e+000
-8.806e+000
Node 3 (-0.53,0.239,0.23 m)
= 1.063e+001 W/m^2
Node 9 (-0.179,0.26,0.23 m)
= 3.421e+000 W/m^2
Node 5 (-0.106,0.211,0.23 m)
= 3.821e+000 W/m^2
Node 2 (-0.738,-0.0231,0.23 m)
= 4.753e+000 W/m^2
Node 4 (-0.267,0.0723,0.23 m)
= 8.264e+000 W/m^2
= 4.568e+000 W/m^2
Node 1 (-0.543,-0.207,0.23 m)
= 1.050e+001 W/m^2
Node 8 (-0.252,-0.238,0.23 m)
= 3.567e+000 W/m^2
Node 6 (0.216,-0.14,0.23 m)
= 8.114e+000 W/m^2
Y
X
Z





Avantaje:

- ✓ Costuri avantajoase pentru constructii folosind acest material.
- ✓ Cu acelasi grad de izolare toate celelalte tipuri de case costa mai mult;
- ✓ Timp scurt de constructie (nr. mic de muncitori si nu necesita folosirea de utilaje de ridicat);
- ✓ Are simultan proprietati de casa pasiva si antiseismica;
- ✓ Necesita finisaje minore datorita placarii prealabile cu placi de fibrobeton de 6 mm;

4. Fereastra cu dublu termopan in rama din spuma poliuretanica (finto legno)

Acest tip de fereastra este protejat prin brevetul nr. A00813/2007.

Acest tip de ferestre este compus din toc alcatuit din materiale compozite: baza fiind spuma poliuretanica de inalta densitate placat cu aluminiu si doua randuri de geamuri termopan astfel incat sa se alcatuiasca trei perne de aer.

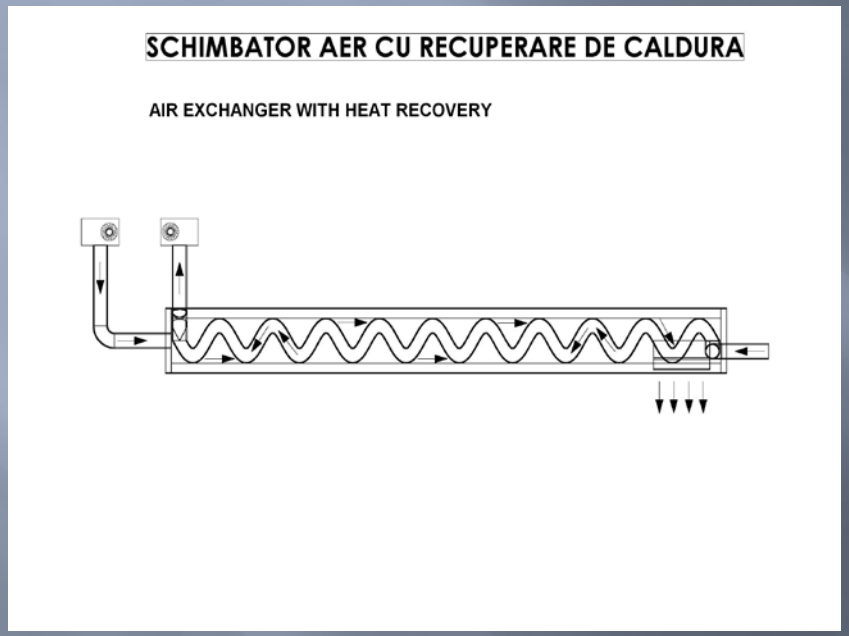
Avantaje:

✓ Eficienta termica si acustica maxima la preturi avantajoase de cost.

✓ Pierderile de caldura sunt de 4 ori mai mici decat la o fereastra cu un simplu termopan (o perna de aer).

5. Sisteme de aerisire cu recuperarea caldurii (frigului).

Este o unitate independenta de dimensiuni mici, asigura ventilatia unei incaperi in care pot sta pana la 10 persoane, consum mic de energie (10 watti/unitate), este usor de intretinut, usor de instalat, cu o mentenanta minima, viata lunga si foarte fiabil.
In cele ce urmeaza va prezentam o poza a recuperatorului:



Celelalte produse pe care le executam, conexe cu “Casa pasiva si antiseismica” se pot regasi pe site-ul firmei www.folex.ro (panou solar parabolic, cazane cu combustibil solid, piscine izoterme, bazine de acumulare a caldurii, incaperi frigorifice).

Modular Elements, Network, Supporting Structure, Construct

Număr brevet: US7802410 (B2)
Data publicării: 2010-09-28
Inventator(i): BREAZ LAURENTIU DUMITRU [RO] +
Solicitant(ţi):
Clasificare:
- internaţional: ***E04B2/00; E04C2/26***
- european: E04B2/26; E04C1/40
Număr cerere de brevet US20060067697 20060807
Număr(numere) de prioritate: RO20050000806 20050922; WO2006RO00016 20060807

Afişare familia de brevete INPADOC
View list of citing documents

Publicat şi ca:
US2008250736 (A1)
WO2007081233 (A2)
WO2007081233 (A3)
NO20081598 (A)
KR20080057305 (A)
JP2009509074 (T)
EP1926865 (A2)
EA200800877 (A1)
EA012548 (B1)
CN101268237 (A)
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AU2006335382 (A1)
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Documente citate:
US314022 (A)
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US1216840 (A)
US1524146 (A)
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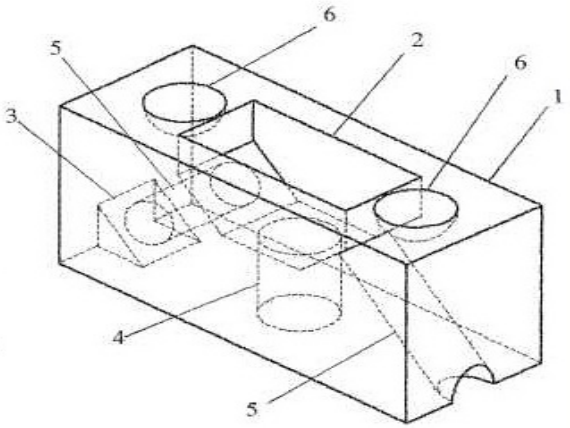
Rezumat al **US 7802410 (B2)**

Translate this text

The invention relates to modular elements made of insulating materials for constructions, provided with at least one network element in the interior; to a network obtained by connecting modular elements; to a supporting structure achieved by casting a hardening material in the network achieved by connecting the modular elements and joining them through the supporting structure, as well as to the process for obtaining thereof. The modular element has an interior network element made up of at least two main half joints and optionally it may have one or more secondary half-joints, connected through vertical and oblique channels. The network obtained by assembling the modular elements is made up of main and secondary joints, connected trough vertical, horizontal and oblique channels.; The unitary supporting structure is obtained by casting a material that will be harden in the unitary network for the entire construction. The process for obtaining the construction according to the invention consists of the following: connection of modular elements and the casting of material that hardens in the network defined through the connection of modular elements and the creation of a unitary supporting structure.



2007
台北國際發明暨技術交易展
2007 Taipei International Invention Show & Technomart

BREAZ, Laurentiu

之

Modular Elements , Network , Supporting Structure ,Passive House and Process for Obtaining Thereof(Breaz, Laurentiu)

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銀牌獎，特頒獎狀以資表揚

評審委員會主任委員

史欽泰

2007年9月27日於臺北市

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Silver Medal Award

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2007 Taipei International Invention Show & Technomart

Invention Contest

Award Committee Chair

September 27, 2007, Taipei City

第六届国际发明展览会（苏州）

6th International Exhibition (SuZhou) of Inventions

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AWARD CERTIFICATE

Silver

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Award to ：

Laurentiu Dumitru BREAZ

For the Invention of:

Modular elements, network, supporting structure and process for obtaining thereof

中国发明协会
China Association of Inventions

发明家协会国际联合会主席
President IFIA Andras Vedres

2008年10月

URKUNDE

IENA 2007

INTERNATIONALE FACHMESSE »IDEEN-ERFINDUNGEN-NEUHEITEN« NÜRNBERG 2007

Breaz Laurentiu
Intelectual Industrial
Consult

RUMÄNIEN

wurde für hervorragende Leistungen eine
Goldmedaille verliehen.

Die internationale Jury der IENA 2007

Erfindung / Neuheit
Modulare Elemente, Vernetzung, Hilfskonstruktion für Passivhäuser und deren Herstellungsprozess
Modular elements, network, supporting structure, passive house and process for obtaining thereof

Nürnberg, 3. November 2007

Kom. Rat Volkwin Hoffelner
Vorsitzender der Jury

The United States of America

The Director of the United States Patent and Trademark Office

Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

United States Patent

Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America, and if the invention is a process, of the right to exclude others from using, offering for sale or selling throughout the United States of America, or importing into the United States of America, products made by that process, for the term set forth in 35 U.S.C. 154(a)(2) or (c)(1), subject to the payment of maintenance fees as provided by 35 U.S.C. 41(b). See the Maintenance Fee Notice on the inside of the cover.

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