ARCHITECTURE STUDENT CONTEST



SUMMARY

DURAflex[®] Firestop Calcium Silicate

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DURAflex® Firestop

Fibre Silicate Panel









PRODUCT INGREDIENT





SAINT-GOBAIN

 The Calcium Silicate (Ca₂SiO₄) panel is made from Portland cement, Silica sand, Ca(OH)₂ and the

Cellulose fiber.



PRODUCT CHARACTERISTICS





Key highlights:



Excellent thermal insulation & fire proof



Anti-termite & rodent



High impact resistance



Easy to cut & fasten, flexible for any space



ASTM C1186 & EN 12467 compliance



Asbestos free product



Packaging



Inkjet printing on DURAflex® Firestop board



DURAflex firestop STANDARD ASTM C1186 TCVN 8258 USA 00x0000x0000 dd.mm.yy 000.0 AA BB CC Lot F 000





AREAS OF APPLICATION







Material performances: -

- Thermal conductivity, k-value = 0.133 W/m·K
- Classified as A1 material (EN 13501-1)
- Use mainly for passive fire protection (PFP) application
- Composite panel for thermal insulation feature in industrial segment

Key areas: -- C, D, F, G, H, K, L



AREAS OF APPLICATION







Concept of passive fire protection:

- Combination of fire resistant building elements to form effective fire compartment



lsover

Technical Insulation









MINERAL WOOL CORE OFFER





Mineral wool is a porous and flexible material that traps the air, making it one of the best thermal and acoustic insulating materials. Mineral wool is incombustible and does not fuel fire or propagate flames.



At Isover, we produce **2 types** of mineral wool products: glass wool & stone wool.





WOOL STRUCTURE: GW VS SW

Glass Wool

(100% fiberized)





Slugs/pearls:

- aris:
- Disadvantage for thermal and acoustic properties
- Need of higher density to balance



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Stone Wool (Shot)

APPLICATION FEATURE DIFFERENCES OF SW VS. GW





Application Feature(s)	Stone Wool	Glass Wool
Thermal insulation	<u>:</u>	::
Fire resistance	\odot	
Acoustic – sound insulation & absorption	÷	<u>:</u>
Density range (common), kg/m³	40, 60, 80, 100, 120, etc.	14, 16, 20, 22, etc.

- Glass wool and Stone wool are produced from different raw materials
 - Glass wool are produced from glass culets
 - Stone wool are produced from combination of volcanic rock
 - Different fiberizing processes
 - Different chemical composition
- Glass wool's general application historically used more for internal building insulation
- Stone wool is historically made for high density, high temperature applications, mechanical resistance
- Product sizes generally different
- > For the same thermal & acoustic performance:
 - \circ Density of SW = 2 x GW



DEDICATED SOLUTIONS ANSWER SPECIFIC NEEDS



We address a variety of markets in construction, transportation and industrial applications.

NEW CONSTRUCTIONS / RESIDENTIAL



RENOVATION



NEW CONSTRUCTIONS / COMMERCIAL



TECHNICAL MARKETS





INSTALLED SOLUTIONS















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INSTALLED SOLUTIONS







SELECTION OF PRODUCTS & SYSTEMS





NEW GLASS WOOL Soft touch glass wool with a biobased binder



ISOVER PLUS Thermal bridges-free insulation studs for facades



RETROWALL Internal insulation system



F4 System supplied as a kit with high thermal and acoustic performances for a light and slim façade



CLIMAVER® Self-supporting insulated ducts



ULTIMATE[™] High fire, acoustical and thermal performing light stone wool



walls



TO KNOW MORE: https://www.saintgobain.com/en/isover



EXAMPLE: ACOUSTICAL INFLUENCE OF CAVITY THICKNESS







The thicker the wool, the better the insulation



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SUSTAINABILITY CONSTRIBUTION





Provide clear and key sustainable information (EPDs, content declarations...)



Offer lightweight and ergonomic solutions



Reduce the environmental impact of our **packaging**



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Ecophon[®] Acoustic Panel





Lecophon SAINT-GOBAIN



ECOPHON



Saint-Gobain Ecophon

- Develops, manufacturers & markets acoustic products & systems
- Objective: create good working environment by enhancing peoples' wellbeing & performance (productivity)
- Mainly focus on sound absorption to improve audibility & communication quality for indoor environments
- Product range available to-date:
 - 13 product families
 - Total of 99 products
- Glass wool panels suitable for ceiling & wall applications

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Hygiene Clinic E

ECOPHON PRODUCT RANGE

Solo Baffle Wave

SOME EXAMPLES:

Super G Plus A





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Α Highest В 0.8 Absorption Coefficient, α_w 0.6 D 0.4 Ε 0.2 Lowest Unclassified 0 125 250 4000 500 1000 2000 Frequency (Hz)

Depending on product type & system configuration, Ecophon products meet sound absorption classification from Class D to **Class A** (mainly) accordance with BS EN 11654.

Sound absorption table

ECOPHON PRODUCT PERFORMANCES





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ACOUSTICAL DESIGN CONSIDERATION

To create optimal room acoustics, following must first be considered:

What activities that will take place in the room? Will it be noisy? Is confidentiality an issue? How much time will be spent communicating?

Who is involved in the activity? How many people are there? Are they old or young? Do they have special needs?

Is the space large or small? Were is it situated, what spaces are next to it and what activities are performed there? Are there fans, alarms or other sources of noise in the space?

Then, select acoustic ceilings & wall panels that will help create the best possible room acoustic for most types of indoor environments

Z People

bace









Office

Healthcare



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REFERENCES FOR INSPIRATION



Institute of Science & Technology Austria (Klosterneuburg, Austria)







Bank Santander Head Office (Madrid, Spain)



Czech University of Life Sciences (Prague, Czech Republic)





REFERENCES FOR INSPIRATION



Globiana Medical Centre (Katowice, Poland)







Paide swimming pool (Paide, Estonia)



Volkswagen Arena, VIP-Lounge (Wolfsburg, Germany)





SUSTAINBILITY PRODUCT?

Random facts: -

- Industry-low CO₂ emissions with exceptional raw material & wide use of renewable energies
- 96% of Ecophon glass wool products have French VOC A+
- Environmental Product Declaration (EPD) document available



For more information please contact Gyproc Malaysia for assistance:

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ECOPHON SeriesPost-Consumer
Recycled Content (%)Akusto48Focus51Master59Solo56





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THANK YOU

