

**ISOVER**  
SAINT-GOBAIN



# DESIGNING SUSTAINABLE BUILDINGS

HOW HVAC INSULATION  
CONTRIBUTES TO GREEN  
BUILDING LABELS

## **DESIGNING SUSTAINABLE BUILDINGS WITH HVAC INSULATION SOLUTIONS**

As the world's population continues to grow and natural resources become scarce, climate change has become a daily reality and an unprecedented challenge.

Buildings account for 33% of global energy consumption and 39% of greenhouse gas emissions. Hence the importance of energy efficiency and carbon neutrality for sustainable buildings today.

What few of us have in mind is that HVAC can represent up to 80% of the total energy consumption of buildings. It makes perfect sense that sustainable HVAC systems help minimise the environmental impact of buildings.

Our insulation solutions help reduce energy consumption and energy-related emissions over the life of your building projects, while having minimal (ideally zero) environmental footprint during manufacturing and all their life cycle.

## **SUSTAINABLE BUILDINGS ARE COMFORTABLE BUILDINGS**

People spend 90% of their time inside buildings. That's why buildings, whether residential or commercial, are so important for our health and wellbeing: they must be as comfortable as possible and offer a safe indoor environment for their occupants.

Focusing on thermal, acoustic or other aspects of comfort in building design means focusing on people, on their quality of life and their ability to work and learn.

Our HVAC insulation solutions provide both thermal and acoustic comfort by helping maintain a comfortable temperature all around the building and by reducing noise from the system.

## **AT THE HEART OF GREEN BUILDING CERTIFICATIONS**

The most recent versions of green building certifications (LEED, BREEAM, WELL, HQE International, EDGE etc.) have placed even more emphasis on energy efficiency.

Sustainable HVAC is an integral part of those certifications as it affects several of the scoring categories.

These scoring categories basically decide how “green” a building is: all aspects of a sustainable building’s design, construction, operation and maintenance – including sustainable HVAC – are taken into account and are certified at different levels. Highly efficient HVAC systems will help you certify your sustainable building projects, not only saving energy and reducing CO<sub>2</sub> emissions, but also because they require less maintenance, which helps to waste less of resources. Sustainable HVAC also has a huge impact on the building user experience by providing acoustic and thermal comfort.

To provide detailed information on the environmental footprint of our solutions, we perform Life Cycle Assessments (LCAs) of our products and have issued Environmental Product

Declarations (EPDs) for many of our solutions. They give a complete but summarised picture of the environmental impacts of a product, from the extraction of raw materials to the end of life, including production. EPDs also allow you to earn valuable points for green building certifications.

### **DID YOU KNOW?**

**Investing in the comfort of occupants is one of the most cost-effective green design strategies.**

# HOW MUCH CAN HVAC INSULATION CONTRIBUTE TO GREEN BUILDING LABELS?

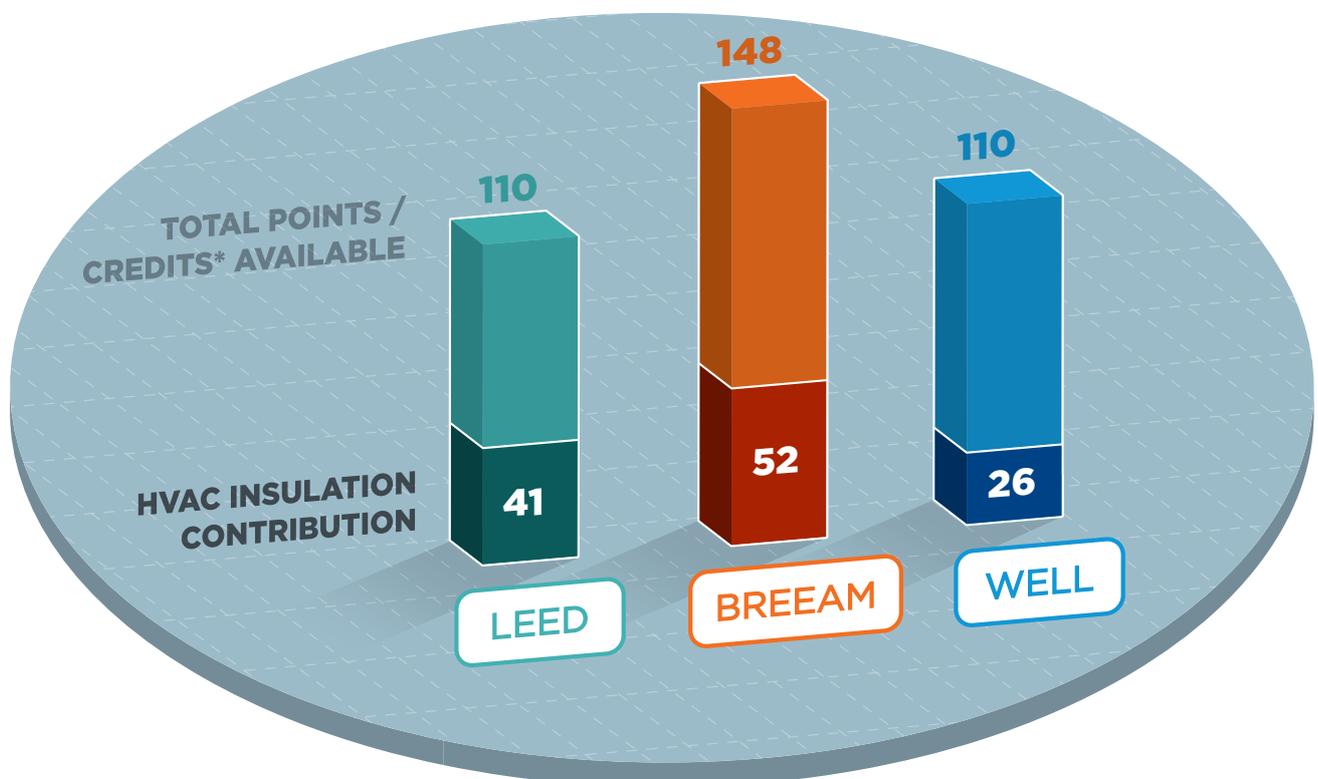
LEED, BREEAM and WELL are organised into scoring categories which are in turn organised into subcategories. For each of these subcategories, it is possible to achieve a certain rating.

These subcategories and ratings have different names depending on the label:

LEED: subcategories are called « **credits** » and the rating is evaluated with « **points** ».

BREEAM: subcategories are called « **issues** » and the rating is evaluated with « **credits** ».

WELL: subcategories are called « **features** » and the rating is evaluated with « **points** ».



\*"points" (LEED and WELL), "credits" (BREEAM)



# SCORE POINTS FOR YOUR BUILDING LABELS

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**1 - LEED V4.1**



## The contribution of HVAC insulation products in obtaining the LEED V4.1 BD+C certification up to 41 points:

At every stage of its life cycle, a building designed, built or renovated in a sustainable way should help improve people's comfort, safety and wellbeing while minimising the consumption of energy and natural resources, reducing the environmental footprint and resulting in lower running costs and increased property values.

### Synthesised table of contributions

LEED V4.1 CATEGORY	CONTRIBUTION OF INSULATION SOLUTIONS	CONTRIBUTION OF INSULATION SOLUTIONS TO LEED V4.1 CREDITS	MAX. POSSIBLE POINTS PER CATEGORY
<b>INTEGRATIVE PROCESS</b>	○	<b>IP</b> Integrative process	1
<b>ENERGY AND ATMOSPHERE</b>	●	<b>EA</b> Optimise energy performance <b>EA</b> Minimum energy performance (req)	16 to 18
<b>MATERIALS AND RESOURCES</b>	●	<b>MR</b> Building life cycle impact reduction (5) <b>MR</b> Building product disclosure & optimisation: environmental product declaration (1) <b>MR</b> Building product disclosure & optimisation: sourcing of raw materials (2) <b>MR</b> Building product disclosure & optimisation: material ingredients (1) <b>MR</b> Construction and demolition waste management (2)	11
<b>INDOOR ENVIRONMENTAL QUALITY</b>	●	<b>EQ</b> Low-emitting materials (3) <b>EQ</b> Thermal comfort (1) <b>EQ</b> Acoustic performance (2) <b>EQ</b> Minimum acoustic performance (req)	6
<b>INNOVATION</b>	○	<b>IN</b> Innovation (5)	5
<b>TOTAL</b>			<b>Up to 41</b>

- | Major contribution
- | Minor contribution

LEED does not certify a product, but instead certifies the building as a whole. In a LEED project, Saint-Gobain Technical Insulation solutions can contribute to obtaining points in 13 credits, with a maximum of 41 points.

## Our contribution and available documentation for our products

	UP TO		CONTRIBUTIONS	DOCUMENTATIONS, SERVICES
<b>INTEGRATIVE PROCESS</b>				
<b>Integrative process</b>	1 point	○	The BIM objects and drawings for our products can help in model development to assess energy consumption, insulation values and thermal comfort ranges as well as anticipating operations and maintenance.	Saint-Gobain BIM objects library available for 28 countries <a href="https://www.isover-technical-insulation.com/documentation">https://www.isover-technical-insulation.com/documentation</a> <a href="https://www.bimobject.com/en/isover-es">https://www.bimobject.com/en/isover-es</a>
<b>ENERGY</b>				
<b>Optimise energy performance</b>	18 points	●	Saint-Gobain Technical Insulation provides solutions for HVAC ducts and pipes, offering the best combination of energy efficiency, thermal comfort, acoustic comfort and safety. In many countries, we facilitate energy modeling through Building Information Modeling (BIM) available files.	Option 1: Airtightness tests, U value calculations, BIM objects helping for modelling available locally Option 2: Implement and document compliance with the applicable recommendations
<b>Minimum energy performance</b>	Required	○	By using adapted insulation and energy saving techniques from Saint-Gobain Technical Insulation, up to 80% of a building's energy consumption for heating or cooling can be saved.	Techcalc and Kaicalc, thermal calculation tools <a href="https://www.isover-technical-insulation.com/techcalc-20-thermal-calculation-software">https://www.isover-technical-insulation.com/techcalc-20-thermal-calculation-software</a> <a href="https://kaicalc.zub-systems.de/#/language">https://kaicalc.zub-systems.de/#/language</a>
<b>MATERIALS &amp; RESOURCES</b>				
<b>Building life-cycle impact reduction</b>	5 points	○	Saint-Gobain Technical Insulation is committed to improve the environmental footprint and sustainable design of its products at every stage of their life cycle. Elastomeric foam does not release any ozone-depleting or climate-warming substances (HFC/FCFC-free)	Option 4: Products EPDs available to do the Building EPD LCA Approach Product/system literature Nordic Swan Ecolabel
<b>Building product disclosure and optimisation - Environmental Product Declarations</b>	1 point	●	Saint-Gobain Technical Insulation EPDs are verified by an independent third party and comply with international standards for full transparency.	Option 1&2: <a href="https://www.isover-technical-insulation.com/documentation">https://www.isover-technical-insulation.com/documentation</a> <a href="https://www.kaimann.com/service/download-center?f%5B0%5D=filter_by_document_subtypes%3A1571">https://www.kaimann.com/service/download-center?f%5B0%5D=filter_by_document_subtypes%3A1571</a> <a href="https://www.epd-norge.no/?lang=en_GB">https://www.epd-norge.no/?lang=en_GB</a> <a href="https://www.environdec.com/library">https://www.environdec.com/library</a>

- Major contribution
- Minor contribution

	UP TO		CONTRIBUTIONS	DOCUMENTATIONS, SERVICES
<b>MATERIALS &amp; RESOURCES<sup>w</sup></b>				
<b>Building product disclosure and optimisation - Sourcing of raw materials</b>	2 points	○	In the Registration Document, Saint-Gobain details our environmental policy, including supply chain subjects, and shows how we prioritise the use of sustainable building materials. In addition, mineral wool can become new insulation by being properly collected, sorted out and processed, as they are recyclable materials.	<ul style="list-style-type: none"> <li>• Registration document or local verified CSR Report</li> <li>• Global Compact</li> <li>• Responsible sourcing</li> <li>• EHS Resources Policy (Sustainable resource policy, Energy Atmospheric emissions and climate change policy, Biodiversity policy)</li> <li>• ISO 14001 available locally</li> <li>• BES6001 (for UK only)</li> <li>• Recycled content declaration available locally</li> <li>• EPD could also provide information on recycled content, waste generation on site and end-of life scenario</li> </ul>
<b>Building product disclosure and optimisation - Material ingredients</b>	1 point	○	Insulation solutions produced by Saint-Gobain Technical Insulation are not classified under any criteria of the European regulation. In particular, they are neither classified as carcinogenic, mutagenic, toxic for reproduction (CMR) nor as a Substance of Very High Concern (SVHC).	Option 2: HPD for USA and Outside Europe may be available locally For Europe, Alternative compliance path with REACH Optimisation (provide REACH Declaration on-demand for customers)
<b>Construction and demolition waste management</b>	2 points	○	<ul style="list-style-type: none"> <li>• Waste on jobsite is reduced as much as possible. There is less than 5% of waste. In addition, tailor made solutions are available for insulation and help to reduce waste generation during construction phase.</li> <li>• Pallets can be recycled.</li> <li>• The cardboard packaging of products can be reused, forming a box in which to deposit the leftover material thus contributing to the recycling and the responsible disposal.</li> </ul>	Available locally

- Major contribution
- Minor contribution

	UP TO		CONTRIBUTIONS	DOCUMENTATIONS, SERVICES
<b>INDOOR ENVIRONMENTAL QUALITY</b>				
<b>Low-Emitting materials</b>	3 points	●	<p>Saint-Gobain Technical Insulation is continuously improving its products to reduce Volatile Organic Compound (VOC) emissions, including formaldehyde, to the lowest possible levels through its eco-innovation process and continuous improvement methodology.</p> <p>In several countries, Saint-Gobain Technical Insulation products are certified by independent institutes according to low VOC emission rating schemes such as Eurofins in Europe or GreenGuard in North America.</p>	<p>Option 1:</p> <ol style="list-style-type: none"> <li>VOC Declaration &amp; test report</li> <li>Statement for emission</li> <li>M1 level in Emission Classification of Building Materials</li> <li>Nordic Swan Ecolabel</li> </ol> <p>Option 2: budget calculation method needed</p>
<b>Acoustic performance</b>	2 points	●	<p>Thanks to its devotion to sustainable design, Saint-Gobain Technical Insulation is permanently engaged in research and development to improve acoustic performance while preserving thermal comfort.</p>	<p>Acoustic tests and declaration on acoustic norms available locally</p>
<b>Minimum acoustic performance</b>	required	●	<p>Saint-Gobain Technical Insulation, the leader in sustainable insulation, can contribute to improved acoustic design by providing its insulation solutions for different applications, such as HVAC ducts, pipes, equipment and penetrations.</p>	<p>Option 1: Provide the Noise Reduction Coefficient</p> <p>Option 2: Provide analysis of reverberation time performance</p>
<b>Thermal comfort</b>	1 point	●	<p>The insulation products manufactured by Saint-Gobain Technical Insulation, are materials with minimal thermal conductivity, which ensures quality thermal comfort. Our solutions provide efficient thermal and acoustic performance in HVAC.</p>	<ul style="list-style-type: none"> <li>Product data sheet for thermal conductivity according to different temperatures</li> <li>Airtightness tests for CLIMAVER®</li> <li>U-value calculations &amp; condensation risk analysis</li> </ul>

- | Major contribution
- | Minor contribution

	UP TO	CONTRIBUTIONS	DOCUMENTATIONS, SERVICES
<b>INNOVATION</b>			
<b>Innovation</b>	5 points	<p>Research and innovation into green building are at the heart of Saint-Gobain's strategy. Our efforts focus both on breakthrough innovations and on continuous improvements. Our strong competencies in building physics (thermal, acoustics, airtightness, moisture management, air quality, fire behaviour) help to design new systems and new solutions, easier to install and better delivering the designed performances.</p> <p>For example, the CLIMAVER® self-supporting insulated air conditioning duct systems are quick and easy to install. They perfectly replace conventional insulated metal ducts. They provide excellent thermal, fire, acoustic and air quality performance.</p> <p>ULTIMATE™ is a ground-breaking innovation in stone wool that draws on Saint-Gobain ISOVER's technological leadership and expertise in insulation products. The new generation of ULTIMATE™ insulation completes the wide range of mineral wools, foams and other insulants already available from ISOVER and Kaimann.</p>	<p>Option 1: Eco-innovation (CLIMAVER® for example, available centrally and locally)</p> <p>Option 2: Depends on the pilot, upon customer request</p> <p>Option 3: Same</p>

- Major contribution
- Minor contribution



# SCORE POINTS FOR YOUR BUILDING LABELS

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**2** - BREEAM International  
New Construction V6

# BREEAM INTERNATIONAL NEW CONSTRUCTION V6

## BREEAM® The contribution of HVAC insulation products in obtaining the BREEAM certification up to 52 credits:

At every stage of its life cycle, a building designed, built or renovated in a sustainable way should help improve people's comfort, safety and wellbeing while minimising the consumption of energy and natural resources, reducing the environmental footprint and resulting in lower running costs and increased property values.

### Synthesised table of contributions

BREEAM CATEGORY	CONTRIBUTION OF INSULATION SOLUTIONS	CONTRIBUTION OF INSULATION SOLUTIONS TO BREEAM ISSUES	MAX. POSSIBLE CREDITS PER CATEGORY
HEALTH AND WELLBEING	●	<b>HEA 02</b> Indoor air quality (5) <b>HEA 04</b> Thermal comfort (3) <b>HEA 05</b> Acoustic performance (4)	12
ENERGY	●	<b>ENE 01</b> Reduction of energy use and carbon emissions (13) <b>ENE 04</b> Low carbon design (3)	16
MATERIALS	●	<b>MAT 01</b> Life cycle impacts (6) <b>MAT 03</b> Responsible sourcing of construction products (4) <b>MAT 04</b> Insulation <b>MAT 06</b> Material efficiency (1)	11
WASTE	●	<b>WST 01</b> Construction waste management (3)	3
INNOVATION	○	<b>INN 01</b> Innovation (10)	10
<b>TOTAL</b>			<b>Up to 52</b>

- Major contribution
- Minor contribution

BREEAM does not certify a product, but instead certifies the building as a whole. In a BREEAM project, Saint-Gobain Technical Insulation solutions can contribute to obtaining points in 11 issues, with a maximum of 52 credits.

# BREEAM INTERNATIONAL NEW CONSTRUCTION V6

## Our contribution and available documentation for our products

	UP TO		CONTRIBUTIONS	DOCUMENTATIONS, SERVICES
<b>HEALTH AND WELLBEING</b>				
<b>Indoor air quality</b>	5 credits	●	Saint-Gobain Technical Insulation is continuously improving its products to reduce Volatile Organic Compound (VOC) emissions, including formaldehyde, to the lowest possible levels through its eco-innovation process and continuous improvement methodology. In several countries, Saint-Gobain Technical Insulation products are certified by independent institutes according to low VOC emission rating schemes such as Eurofins in Europe or GreenGuard in North America.	Test report Eurofins Certificate M1 Level in Emission Classification of Building Materials Nordic Swan Ecolabel Greenguard A+ label (available locally)
<b>Thermal comfort</b>	3 credits	●	The insulation products manufactured by Saint-Gobain Technical Insulation are materials with minimal thermal conductivity which ensures quality thermal comfort. Our solutions provide the efficient thermal and acoustic performance in HVAC.	<ul style="list-style-type: none"> <li>• Product data sheet for thermal conductivity according to different temperatures</li> <li>• Airtightness tests</li> <li>• U-value calculations &amp; condensation risk analysis</li> </ul>
<b>Acoustic performance</b>	4 credits	●	Thanks to its devotion to sustainable design, Saint-Gobain Technical Insulation is permanently engaged in research and development to improve acoustic performance while preserving thermal comfort.	<ul style="list-style-type: none"> <li>• Acoustic test</li> <li>• Provide the Noise Reduction Coefficient</li> <li>• Provide analysis of reverberation time performance</li> </ul>
<b>ENERGY</b>				
<b>Reduction of energy use and carbon emissions</b>	13 credits	○	By using adapted insulation and energy saving techniques from Saint-Gobain Technical Insulation, up to 80% of a building's energy consumption for heating or cooling can be saved.	Techcalc and Kaicalc, thermal calculation tools <a href="https://www.isover-technical-insulation.com/techcalc-20-thermal-calculation-software">https://www.isover-technical-insulation.com/techcalc-20-thermal-calculation-software</a> <a href="https://kaicalc.zub-systems.de/#/language">https://kaicalc.zub-systems.de/#/language</a>
<b>Low carbon design</b>	3 credits	○	Saint-Gobain Technical insulation contributes effectively to reducing building energy consumption and associated carbon emissions by providing HVAC insulation solutions.	-

- | Major contribution
- | Minor contribution

# 2

# BREEAM INTERNATIONAL NEW CONSTRUCTION V6

	UP TO		CONTRIBUTIONS	DOCUMENTATIONS, SERVICES
<b>MATERIALS</b>				
<b>Life cycle impacts</b>	6 credits	●	Saint-Gobain Technical Insulation EPDs are verified by an independent third party and comply with international standards for full transparency.	<a href="https://www.isover-technical-insulation.com/documentation">https://www.isover-technical-insulation.com/documentation</a> <a href="https://www.kaimann.com/service/download-center?f%5B0%5D=filter_by_document_subtypes%3A1571">https://www.kaimann.com/service/download-center?f%5B0%5D=filter_by_document_subtypes%3A1571</a> <a href="https://www.epd-norge.no/?lang=en_GB">https://www.epd-norge.no/?lang=en_GB</a> <a href="https://www.environdec.com/library">https://www.environdec.com/library</a>
<b>Responsible sourcing of construction products</b>	4 credits	●	<p>In the Registration Document, Saint-Gobain details our environmental policy, including supply chain subjects, and shows how we prioritise the use of sustainable building materials.</p> <p>In addition, mineral wool can become new insulation by being properly collected, sorted out and processed, as they are recyclable materials.</p>	<ul style="list-style-type: none"> <li>• Registration document or local verified CSR Report</li> <li>• Global Compact</li> <li>• Responsible sourcing</li> <li>• EHS Resources Policy (Sustainable resource policy, Energy Atmospheric emissions and climate change policy, Biodiversity policy)</li> <li>• ISO 14001 available locally</li> <li>• BES6001 (for UK only)</li> <li>• Recycled content declaration available locally</li> <li>• EPD could also provide information on recycled content, waste generation on site and end-of life scenario</li> </ul>
<b>Insulation</b>			Although this criterion is not assessed as a standalone element, our solutions provide high levels of insulation.	-
<b>Material efficiency</b>	1 credit	●	<p>Tailor-made solutions are available for insulation and help to reduce waste generation during construction phase.</p> <p>Lifetime of the insulation solutions is equal or longer (no maintenance needed, possibility to reuse it after changing HVAC Systems) to HVAC systems.</p>	Available locally

- Major contribution
- Minor contribution

# BREEAM INTERNATIONAL NEW CONSTRUCTION V6

	UP TO		CONTRIBUTIONS	DOCUMENTATIONS, SERVICES
<b>WASTE</b>				
<b>Construction waste management</b>	3 credits	●	<ul style="list-style-type: none"> <li>- Waste on jobsite is reduced as much as possible. There is less than 5% of waste. In addition, tailor made insulation solutions help to reduce waste generation during construction phase.</li> <li>- Pallets can be recycled.</li> <li>- The cardboard packaging of products can be reused, forming a box in which to deposit the leftover material thus contributing to the recycling and the responsible disposal.</li> </ul>	EPD provide information on waste generation on site and end-of life scenario
<b>INNOVATION</b>				
<b>Innovation</b>	10 credits	○	<p>Research and innovation into green building are at the heart of Saint-Gobain's strategy. Our efforts focus both on breakthrough innovations and on continuous improvements. Our strong competencies in building physics (thermal, acoustics, airtightness, moisture management, air quality, fire behaviour) help to design new systems and new solutions, easier to install and better delivering the designed performances.</p> <p>For example, the CLIMAVER® self-supporting insulated air conditioning duct systems are quick and easy to install. They perfectly replace conventional insulated metal ducts. They provide excellent thermal, fire, acoustic and air quality performance.</p> <p>ULTIMATE™ is a ground-breaking innovation in stone wool that draws on Saint-Gobain ISOVER's technological leadership and expertise in insulation products. The new generation of ULTIMATE™ insulation completes the wide range of mineral wools, foams and other insulants already available from ISOVER and Kaimann.</p>	<p>Option 1: Eco-innovation (CLIMAVER® for example, available centrally and locally)</p> <p>Option 2: Depend on the pilote, upon customer request</p> <p>Option 3: Same</p>

- | Major contribution
- | Minor contribution



**To find out more about our HVAC range, discover our general HVAC Insulation Brochure.**





# SCORE POINTS FOR YOUR BUILDING LABELS

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**3** - WELL V2

## WELLv2™ The contribution of HVAC insulation products in obtaining the WELL V2 certification up to 26 points:

At every stage of its life cycle, a building designed, built or renovated in a sustainable way should help improve people's comfort, safety and wellbeing while minimising the consumption of energy and natural resources, reducing the environmental footprint and resulting in lower running costs and increased property values.

### Synthesised table of contributions

WELL CATEGORY	CONTRIBUTION OF INSULATION SOLUTIONS	CONTRIBUTION OF INSULATION SOLUTIONS TO WELL FEATURES	MAX. POSSIBLE POINTS PER CATEGORY
AIR	●	<b>A01</b> Air quality (req) <b>A05</b> Enhanced air quality (4)	4
	○	<b>A14</b> Microbe and mould control (1)	1
WATER	●	<b>W07</b> Moisture management (3)	3
THERMAL COMFORT	●	<b>T01</b> Thermal performance (req)	/
SOUND	●	<b>S02</b> Maximum noise levels (3) <b>S03</b> Sound barriers (3) <b>S04</b> Reverberation time (2) <b>S05</b> Sound reducing surfaces (2)	10
MATERIALS	●	<b>X06</b> VOC restrictions management (4)	4
	○	<b>X02</b> Interior hazardous material management (req) <b>X07</b> Materials transparency (3)	3
INNOVATION	●	<b>I01</b> Innovation WELL (1)	1
<b>TOTAL</b>			<b>Up to 26</b>

- Major contribution
- Minor contribution

WELL does not certify a product, but instead certifies the building as a whole. In a WELL project, Saint-Gobain Technical Insulation solutions can contribute to obtaining points in 13 features, with a maximum of 26 points.

Our contribution and available documentation for our products

	UP TO		CONTRIBUTIONS	DOCUMENTATIONS, SERVICES
<b>AIR</b>				
<b>Air quality</b>	Precondition	●	Part 2: Meet the thresholds for organic gases In several countries, Saint-Gobain Technical Insulation products are certified by independent institutes according to low VOC emission rating schemes such as Eurofins in Europe or GreenGuard in North America.	Test report Eurofins Certificate M1 Level in Emission Classification of Building Materials Nordic Swan Ecolabel Greenguard A+ label (available locally)
<b>Enhanced air quality</b>	4 points	●	Saint-Gobain Technical Insulation is continuously improving its products to reduce Volatile Organic Compound (VOC) emissions, including formaldehyde, to the lowest possible levels through its eco-innovation process and continuous improvement methodology. In several countries, Saint-Gobain Technical Insulation products are certified by independent institutes according to low VOC emission rating schemes such as Eurofins in Europe or GreenGuard in North America. Kaimann products are partly certified EUROFINS IAC Gold.	Test report Eurofins Certificate M1 Level in Emission Classification of Building Materials Nordic Swan Ecolabel Greenguard A+ label (available locally)
<b>Microbe and mould control</b>	1 point	○	Against mould that can grow on HVAC cooling systems, Saint-Gobain Technical Insulation solutions offer high levels of airtightness. Many Saint-Gobain Technical Insulation solutions have been tested to not support mould growth.	VDI 6022 test report Airtightness test for CLIMAVER®
<b>WATER</b>				
<b>Moisture management</b>	3 points	●	Saint-Gobain Technical Insulation offers the highest classification of airtightness (exceeding the most stringent airtightness classification) and moisture management. Our insulation materials can prevent condensation and damage for surroundings.	High SD-value (water vapour permeability) Closed cell structure (Kaimann foam) Airtightness test for CLIMAVER®

- Major contribution
- Minor contribution

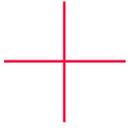
	UP TO		CONTRIBUTIONS	DOCUMENTATIONS, SERVICES
<b>THERMAL COMFORT</b>				
<b>Thermal performance</b>	Precondition	○	Saint-Gobain Technical Insulation solutions provide efficient thermal insulation for all your pipes and ductwork, whether for a home, commercial building, office, school, hospital or airport. Saint-Gobain Technical Insulation HVAC products help ensure the building and its systems are energy efficient.	Techcalc and Kaicalc, thermal calculation tools <a href="https://www.isover-technical-insulation.com/techcalc-20-thermal-calculation-software">https://www.isover-technical-insulation.com/techcalc-20-thermal-calculation-software</a> <a href="https://kaicalc.zub-systems.de/#/language">https://kaicalc.zub-systems.de/#/language</a>
<b>SOUND</b>				
<b>Maximum noise levels</b>	3 points	●	Sound comfort can be improved considerably by paying careful attention to heating, ventilation and plumbing systems insulation. Saint-Gobain Technical Insulation solutions can help you meet this feature. Our solutions help reduce indoor noise at the source, creating more comfortable shared spaces.	Acoustic test
<b>Sound barriers</b>	3 points	●	Saint-Gobain Technical Insulation solutions have been tested to ensure the highest possible decibel reduction, providing excellent acoustic performance. Our solutions reduce noise.	Acoustic test
<b>Reverberation time</b>	2 points	●	The easiest way to achieve this feature is to decrease the reverberation time using sound absorbing materials. Saint-Gobain Technical Insulation solutions can help you meet this feature.	Analysis of reverberation time performance
<b>Sound reducing surfaces</b>	2 points	●	Saint-Gobain Technical Insulation solutions can limit reverberation time. This will help reduce sound reverberation and permit acoustic comfort to be improved.	Noise Reduction Coefficient

- | Major contribution
- | Minor contribution

	UP TO		CONTRIBUTIONS	DOCUMENTATIONS, SERVICES
<b>MATERIALS</b>				
<b>Interior Hazardous Materials Management</b>	Precondition	○	Saint-Gobain Technical Insulation products did not and never contain asbestos. They are free from lead polychlorinated biphenyl (PCB) and mercury. Elastomeric is free from heavy metal.	Compliant RoHS for Kaimann
<b>VOC restrictions</b>	4 points	●	In several countries, Saint-Gobain Technical Insulation products are certified by independent institutes according to low VOC emission rating schemes such as Eurofins in Europe or GreenGuard in North America. Kaimann products are partly certified EUROFINs IAC Gold.	<ul style="list-style-type: none"> <li>• Test report</li> <li>• Eurofins Certificate</li> <li>• M1 Level in Emission Classification of Building Materials</li> <li>• Nordic Swan Ecolabel</li> <li>• Greenguard</li> <li>• A+ label</li> <li>• Available locally</li> </ul>
<b>Materials transparency</b>	3 points	○	Please refer to your local team to learn more and see if they have the document listed in the requirement.	-
<b>INNOVATION</b>				
<b>Innovate WELL</b>	1 point	●	<p>Research and innovation into green building are at the heart of Saint-Gobain's strategy. Our efforts focus both on breakthrough innovations and on continuous improvements. Our strong competencies in building physics (thermal, acoustics, airtightness, moisture management, air quality, fire behaviour) help to design new systems and new solutions, easier to install and better delivering the designed performances.</p> <p>For example, the CLIMAVER® self-supporting insulated air conditioning duct systems are quick and easy to install. They perfectly replace conventional insulated metal ducts. They provide excellent thermal, fire, acoustic and air quality performance.</p> <p>ULTIMATE™ is a ground-breaking innovation in stone wool that draws on Saint-Gobain ISOVER's technological leadership and expertise in insulation products. The new generation of ULTIMATE™ insulation completes the wide range of mineral wools, foams and other insulants already available from ISOVER and Kaimann.</p>	Eco-innovation (CLIMAVER® for example, available centrally and locally)

- Major contribution
- Minor contribution





# GLOSSARY

**BREEAM - BUILDING RESEARCH ESTABLISHMENT ENVIRONMENTAL ASSESSMENT METHOD:**

is a sustainability assessment method for masterplanning projects, infrastructure and buildings which recognises and reflects the value in higher performing assets across the built environment lifecycle, from new construction to in-use and refurbishment.

**CIRCULAR ECONOMY:**

can be defined as an economic system of exchange and production that, at all stages of the life cycle of the products (goods and services), aims at increasing the effectiveness of use of the resources and at reducing the impact on the environment, while simultaneously improving the wellbeing of individuals.

**CRADLE TO GATE:**

terminology used for the Life Cycle Assessment, signifying a comprehensive scope of analysis: from the extraction of the raw materials until the factory gate.

**CRADLE TO GRAVE:**

terminology used for the Life Cycle Assessment, signifying a comprehensive scope of analysis: from the extraction of the raw materials until the end of life.

**ECO-INNOVATION:**

a Saint-Gobain policy that aims at providing added value to our clients by developing and distributing innovative solutions that contribute to reducing the environmental impact of buildings and infrastructure throughout their life cycle.

**ENERGY RECOVERY:**

meant for waste that cannot be recycled or recovered in the form of materials. Energy recovery consists of recovering and creating value from the energy produced while treating the waste by combustion or methanation.

**EPD - ENVIRONMENTAL PRODUCT DECLARATION:**

provides information about the environmental performance of a product over its whole life cycle. It is based on the Life Cycle Assessment, and is compliant with the EN 15804 standard.

**EUCEB:**

certification on the compliance of mineral wool fibers with Note Q of Regulation (EC) no 1272/2008 guaranteeing that they are biosoluble and not classified as carcinogenic.

**FU - FUNCTIONAL UNIT:**

reference unit in the Life Cycle Assessment. This is a measurement element that allows quantifying the function performed by the tested product. For example, the FU for CLIMAVER® is providing a thermal insulation on 1 m<sup>2</sup> of product with a thermal resistance of 1 K·m<sup>2</sup> ·W<sup>-1</sup>.

**GBC - GREEN BUILDING COUNCIL:**

associations dedicated to transforming the market in the sustainable construction sector. They are often associated with the creation of Building Certifications and bring together all parties involved in sustainable construction. Saint-Gobain is a member of most local GBCs, GBC Europe and World GBC (WGBC).

**HEALTH PRODUCT TRANSPARENCY:**

HPT is a general tendency that aims to provide transparent information on the chemical substances contained in the products that we buy and use.

**HPD - HEALTH PRODUCT DECLARATION:**

a self-declaration made by manufacturers with the possibility to make a third-party verification.

**ISO 14001:**

standard that defines a series of requirements specific to the implementation of an environmental management system within an organisation, irrespective of its size and domain of activity.

**ISO 50001:**

in the same manner, a standard that is applicable for energy management.

**LCA - LIFE CYCLE ASSESSMENT:**

a standardised methodology (ISO 14044) that quantifies the impacts of a “product” (an object, a service or a process), right from the extraction of the raw materials that are used to make it, until its disposal at its end-of-life, and through the phases of distribution and use, i.e. “from the cradle to the grave”.

**LEED - LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN:**

this is a North-American system for the standardisation of high environmental quality buildings, created by the US Green Building Council in 1998.

**PRE-CONSUMER MATERIAL:**

material diverted from the waste stream during a manufacturing process. Excluded is reutilisation of materials such as rework, regrind, or scrap generated in a process and capable of being reclaimed within the same process that generated it.

**POST-CONSUMER MATERIAL:**

material generated by households or commercial, industrial and institutional facilities in their role as end-users of the product which can no longer be used for its intended purpose.

**RECYCLED CONTENT:**

the portion (%) of materials recycled from the waste of a product, reincorporated in the manufacturing process of a new product of the same type.

**RECYCLING:**

process of waste treatment that allows reintroducing manufacturing residues or even materials that were the components of a similar product that reached its end-of-life, in the production cycle of a product.

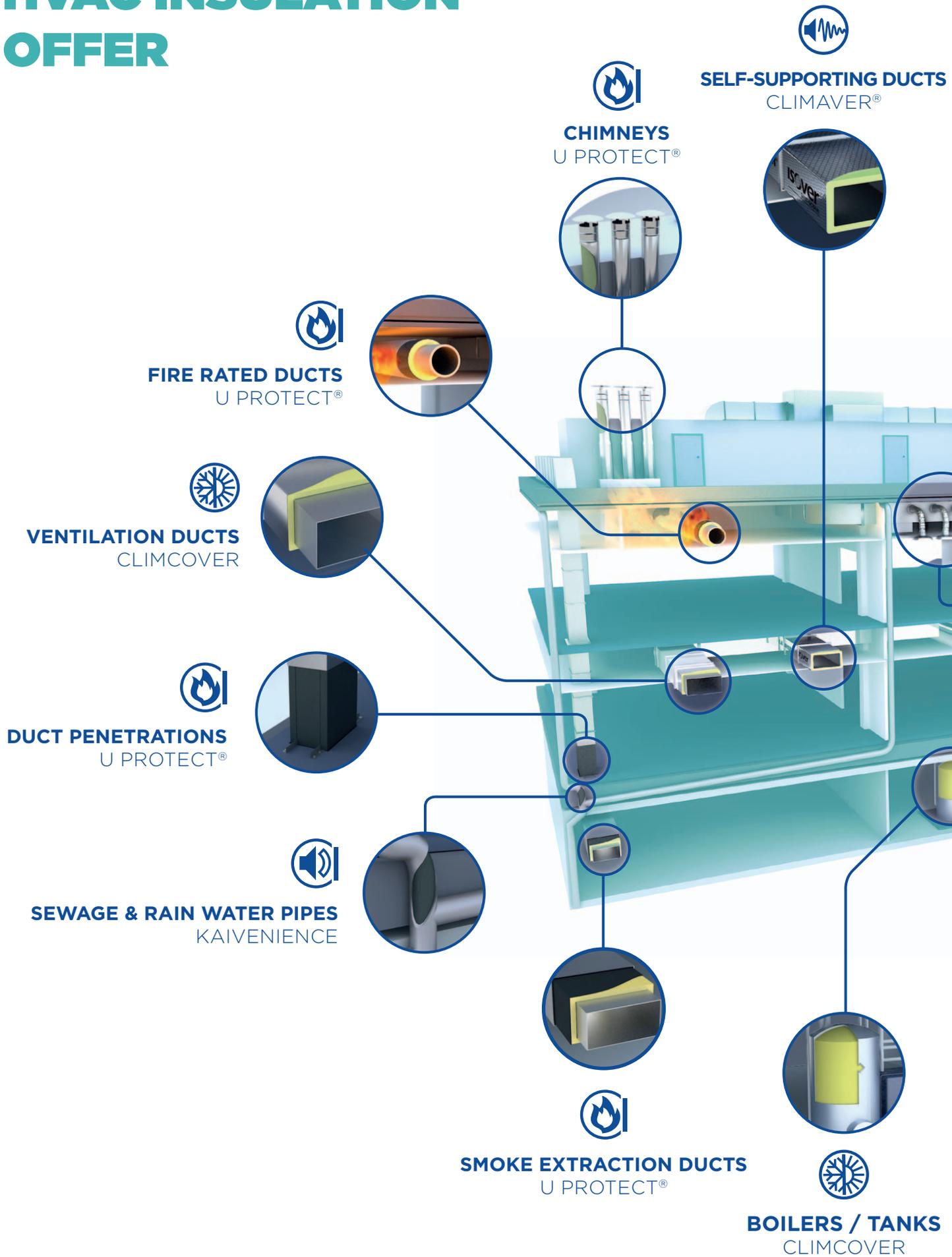
**VOCS - VOLATILE ORGANIC COMPOUNDS:**

comprises a very large group of products such as benzene, acetone, perchloroethylene, etc. They are either found in the gaseous state or evaporate easily under normal conditions of temperature and pressure during their use.

**WELL - BUILDING STANDARD:**

is a vehicle for buildings and organisations to deliver more thoughtful and intentional spaces that enhance human health and wellbeing which is backed by the latest scientific research. WELL includes strategies that aim to advance health by setting performance standards for design interventions, operational protocols and policies and a commitment to fostering a culture of health and wellbeing.

# HVAC INSULATION OFFER

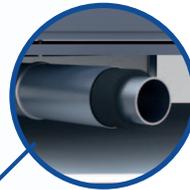




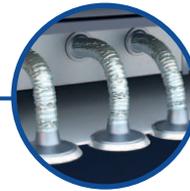
**AIR HANDLING UNIT**  
KAISOUND



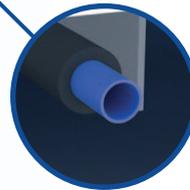
**DUCTS OUTSIDE THE BUILDING**  
CLIMAVER® STAR



**A/C DUCTS**  
KAIFLEX



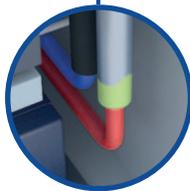
**FLEXIBLE DUCTS**  
FLEXIVER



**COLD WATER PIPES**  
KAIFLEX



**HOT WATER PIPES**  
U PROTECT® PIPE SECTION ALU2



**PIPE PENETRATIONS**  
U PROTECT® PIPE SECTION ALU2  
KAIFLEX





# ABOUT SAINT-GOBAIN

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Find out more about the Group  
and the Saint-Gobain Technical  
Insulation business unit.



Saint-Gobain designs, manufactures and distributes solutions for the construction, mobility, healthcare and other industrial application markets. Developed through a continuous innovation process, they provide wellbeing, performance and safety while addressing the challenges of sustainable construction, resource efficiency and the fight against climate change.

This strategy of responsible growth is guided by the Saint-Gobain purpose, “MAKING THE WORLD A BETTER HOME”, which responds to the shared ambition of the women and men in the Group to act every day to make the world a more beautiful and sustainable place to live in.

# MAKING THE WORLD A BETTER HOME



Aligned with this commitment, Saint-Gobain Technical Insulation has been delivering sustainable insulation solutions to customers since 1937. Across all technical markets - from Marine to Industry, HVAC, automotive and household appliances - and with a worldwide presence deployed locally, we support our customers at every step of the project, from design to installation. This means customising our approach based on specific needs. This means adding value through high levels of comfort, health, safety and performance. This also means helping limit environmental impact of each project, while managing costs.

With expertise in an array of insulation materials, we are constantly pushing the limits of our solutions. These unwavering R&D efforts also enable us to reduce the carbon footprint of each product, whether through high levels of recycled content, recyclability or lower energy consumption.

Drawing on a unique combination of global resources, local deployment and multi-material expertise, Saint-Gobain Technical Insulation strives to always be more efficient and responsible. Together with our customers, we are making this an everyday reality.

Saint-Gobain Technical Insulation  
**PUSHING THE LIMITS OF SUSTAINABILITY TOGETHER.**



Saint-Gobain Technical Insulation

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