isover
SAINT-GOBAIN

ISOVER TECHCALC 3.0

THERMAL CALCULATION SOFTWARE FOR TECHNICAL INSULATION

For maximizing energy efficiency, securing process stability and ensuring personal protection in Industry, HVAC and Marine applications.

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THE NEXT GENERATION OF THERMAL INSULATION CALCULATION

TechCalc
Thermal Calculation Software for Technical Insulation

Saint-Gobain Isover proudly presents **Isover TechCalc 3.0**, the latest evolution in our long-standing commitment to excellence in thermal insulation design. Backed by over **125 years of expertise and decades of innovation in software development**, **Isover TechCalc 3.0** offers professionals the most advanced tool for **precise, efficient, and regulation compliant thermal calculations.**

Isover TechCalc 3.0: Smarter Thermal Calculations Made Simple

With **Isover TechCalc 3.0** engineers, planners, designers, and insulation contractors can now calculate thermally efficient constructions faster, easier, and more accurately than ever.

Whether you're working in industrial processes, HVAC or Marine and Offshore applications, **Isover TechCalc 3.0** provides reliable results that support energy-efficient and regulation-compliant design.

Now fully aligned with the latest standards - ISO 12241 and EN 17956 - **Isover TechCalc 3.0** integrates proven engineering methods including those from VDI 2055 & ASTM C680 ensuring consistency and precision in every calculation.

With its intuitive interface, updated material and system databases, and powerful performance, **Isover TechCalc 3.0** helps you perform complex thermal calculations with maximum efficiency and confidence.

GET IT RIGHT WITH TECHCALC.

From industrial processes to HVAC ductwork and piping, as well as Marine & Offshore installations, Isover TechCalc 3.0 is the trusted tool that ensures precision and reliability in technical insulation calculations.

What's new in Isover TechCalc 3.0

The new **TechCalc 3.0** is a complete evolution of Isover's trusted thermal calculation tool. Now available as a web-based online platform, **TechCalc 3.0** features a modern, user-friendly design with a guided, step-by-step menu structure that makes complex calculations simple and intuitive.

Key Enhancements in TechCalc 3.0:

- **Updated to ISO 12241**
- **Adapted to EN 17956 – the new European standard for energy efficiency classification**
- **Expanded supporting databases – including tables for all pipe diameters and subcomponents**
- **Enhanced sustainability features – calculate CO_2 savings, energy losses, amortization, and economic insulation thickness in just a few clicks**
- **Optimized for efficiency – faster performance and improved accuracy for HVAC, industrial, and marine/offshore applications**

TechCalc 3.0 empowers engineers, designers, and insulation professionals to make informed, cost-effective, and environmentally sound decisions.

Whether you're auditing existing installations or planning new projects **TechCalc 3.0** helps you design with confidence

STEP-BY-STEP WITH ISOVER TECHCALC 3.0.

From design to decision: precise thermal calculations made easy

Isover TechCalc 3.0 follows a clear, guided step-by-step menu structure to help you perform complex insulation calculations efficiently, accurately, and in full compliance with the latest standards (ISO 12241 and EN 17956).

Step 1: Define your component

Select the type and shape of the equipment to be calculated: Pipes, walls, ducts, tanks, and geometries: cylidner, cube or sphere

Step 2: Select the Calculation Method

Select a Calculation Method depending on
› Known insulation thickness
› Minimum insulation thickness

Step 3: Set the Medium

Select thermal properties from the built-in media database (fludis, air, water, steam, etc.) or enter custom values as needed.

Step 4: Define Ambient Conditions

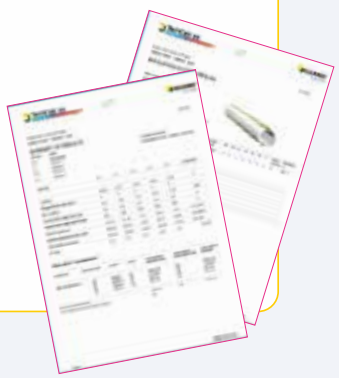
Use the built-in climate database or enter real ambient site conditions.

Step 5: Select Insulation solution

Select from Isover's insulation library, CINI, VDI, and ASTM product ranges or add custom materials

Output & **Optimization**

Compare up to four insulation setups by thermal efficiency, energy cost, and space or design constraints. Export results as PDF and graphics.



TechCalc 3.0: A step-by-step tool for real-world solutions, fast, flexible, and fully adapted to your insulation needs

DRIVING SUSTAINABILITY WITH SMART INSULATION

37% **Industry accounts 37% of final energy consumption globally***

58% **of all CO_2 emissions come from Industry (direct + indirect emissions)****

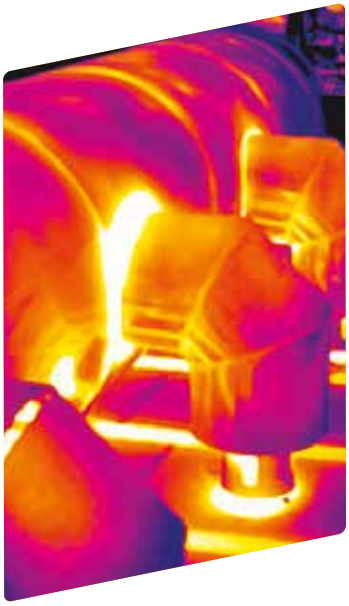
And yet, thermal insulation remains one of the most underused solutions for energy savings and CO_2 reduction!

Isover & TIPCHECK: identifying the invisible

The TIPCHECK Programme was implemented by the European Industrial Insulation Foundation (EiiF) with the aim of providing industry with tools and solutions to save energy and to reduce CO_2 emissions by improving technical insulation systems.

Our Isover EiiF-certified TIPCHECK experts perform professional thermal performance audits to uncover hidden energy losses in industrial plants.

Using advanced tools like Isover TechCalc 3.0, they can quickly and accurately:
› Quantify energy savings potential
› Calculate insulation performance and return on investment
› Recommend cost-effective upgrades for sustainable impact



European Industrial Insulation Foundation

At Isover, we believe sustainability is part of our responsibility. With smart insulation, industries can lower energy use and also their carbon footprint.

Isover is a founding member of the European industrial insulation Foundation (EiiF).

Insulation that pays off

Improved insulation is good for the planet and for business! With Isover's expert insights and cutting-edge tools, your operation can become more energy-efficient, compliant, and future-ready.

* www.iea.org ; ** www.ipcc.ch

TECHCALC 3.0 OFFERS A WIDE RANGE OF CALCULATION METHODS: FROM HEAT FLOW TO ENERGY

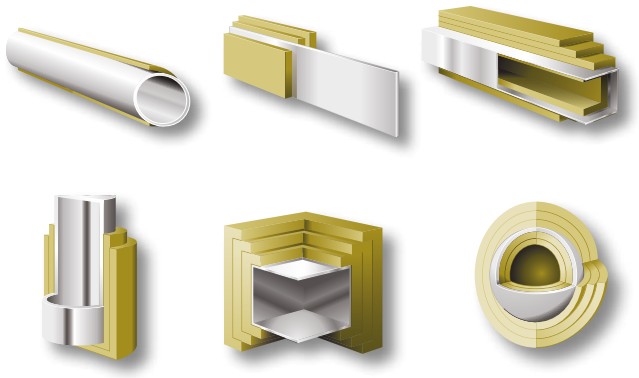
TechCalc 3.0 offers precise, standards-based calculation methods tailored to every aspect of thermal insulation design.

SELECT A CALCULATION METHOD DEPENDING ON:			
KNOWN INSULATION THICKNESS		**MINIMUM INSULATION THICKNESS**	
	Assignment of Energy Efficiency Classes according to EN 17956		Assignment of Energy Efficiency Classes according to EN 17956
	Heat loss/gain and surface temperature/condensation		Maximum Heatflow rate
	Operational Costs		Surface temperature
	Axial temperature change of the flowing medium		Prevention condensation
	Temperature change over time		Prevention condensation inside
	Moisture accumulation on a cooling component		
	Calculation U-R value		
	Time it takes for the water inside component to freeze (0ºC/32ºF)		
	Economic cost		

TECHCALC 3.0: MULTIPLE COMPONENTS. MULTIPLE LAYERS. MULTIPLE SOLUTIONS.

COMPONENTS

6 different types of components: Pipes, walls, ducts, cylindrical, Spheric, cubical or cylindrical tanks/equipment



Multiple-layer insulation constructions with up to **2** layers of internal and up to **7** different layers of outer insulation

TechCalc 3.0 makes comparison simple: design multiple setups and evaluate up to four insulation options

CUSTOMIZABLE OPEN DATABASES: TAILOR TECHCALC 3.0 TO YOUR NEEDS

TechCalc 3.0 comes with extensive open databases designed to streamline your workflow and ensure accurate, standards-compliant calculations.

Now more flexible than ever, the tool allows you to extend, modify, and structure datasets with your own project-specific information, empowering you to adapt **TechCalc 3.0** to regional requirements or company-specific standards.

With newly added countries and product datasets, **TechCalc 3.0** supports a truly international user base while maintaining deep technical accuracy.

With TechCalc 3.0's open and flexible databases, you can customize, extend, and export your own databases. And even share project-specific databases with colleagues!

Integrated Database Categories:

→ **Insulation Solutions**

Preloaded catalogue of Isover technical and standard insulation products (CINI, VDI, ASTM), with customizable options.

→ **Media Properties**

Thermal characteristics of common media (fluids, air, water, steam, etc.) linked to temperature and pressure.

→ **Cladding Materials**

Predefined cladding types with emissivity values, plus option for custom materials.

→ **Climate Data**

Regional climate presets (temperature, humidity, wind) that are fully customizable.

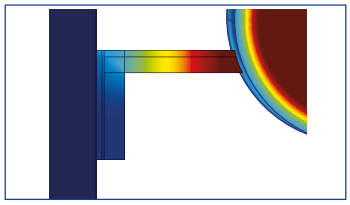
→ **Thermal Bridges**

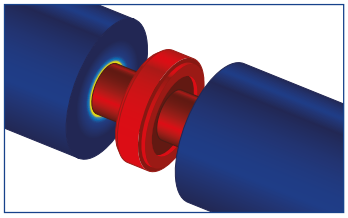
Database of thermal bridge configurations for installations and structural elements, including thermal effects and calculation support.

ADVANCED FEATURES FOR THE PROFESSIONAL USER

Isover TechCalc 3.0 goes beyond basic thermal calculations by integrating advanced modules for thermal bridge analysis and operational cost evaluation, essential tools for engineers aiming to **optimize energy efficiency, reduce emissions, and maximize return on investment.**

Thermal Bridges – Integrated and Accurate





Thermal bridges, such as supports, spacers, valves, flanges, and other fittings, are critical points of heat loss in any insulation system.
TechCalc 3.0 fully integrates **thermal bridge calculations** into its workflow, offering professional users robust methods to account for these losses with precision:

- Supports correction of declared thermal conductivity values (**λ**-declared) using **Δλ adjustments**, as outlined in **ISO 23993**.
- Includes fitting-specific data for common components in industrial installations such as valves, **flanges, and pipe supports.**

Operational Cost & CO_2 Analysis – Economic Insight at Your Fingertips

With rising energy costs and stricter regulations, uninsulated surfaces mean wasted energy, higher expenses, and unnecessary CO_2 emissions.

TechCalc 3.0 features a module to calculate energy losses, estimate CO_2 savings, assess payback of insulation investments, and compare scenarios to find the most cost-effective, sustainable solution.

TechCalc 3.0 simplifies this analysis with an **intuitive interface** and a **preloaded database of common energy sources**.
Just input your project data, select your energy type, and with a single click, **visualize your savings—in both euros** and **CO_2 reductions**.

DID YOU KNOW

Backed by Ecofys report, EiiF demonstrates that insulation improvements usually pay off in less than one year, making them a quick win for industry!*

From cost-driven to sustainability-driven, TechCalc 3.0 calculates the insulation thickness that best fits your project goals.

*https://www.isover-technical-insulation.com/news/climate-protection-rapid-payback

TECHCALC 3.0 UNPACKED: NEW FEATURES IN FOCUS

ENERGY EFFICIENCY CLASSES
EN 17956 Integration

TechCalc 3.0 brings powerful new functionality aligned with the EN 17956 standard, enabling insulation professionals to classify and optimize systems for energy efficiency performance with precision and ease.

With full integration of EN 17956, TechCalc 3.0 supports two key applications:

1 - Automatic Energy Efficiency Classification

For each proposed insulation solution, the **results screen clearly displays the corresponding Energy Efficiency Class (EEC)** according to EN 17956, along with the **maximum allowable heat flow rate** for that class. This allows for direct comparison and transparent performance benchmarking between different insulation versions.

2 - Minimum Insulation Thickness by Chosen Energy Efficiency Class

Users can also **select a target EEC**, and TechCalc 3.0 will calculate the **minimum required insulation thickness** to achieve that classification. The results will show:
› Chosen **Energy Efficiency Class**
› Corresponding **minimum insulation thickness**
› Maximum **heat flow** rate permitted for compliance

TechCalc 3.0 offers advanced features for calculations across the entire range of pipe diameters. Users can evaluate insulation performance and compliance based on selected criteria. This feature streamlines the design process for piping systems of various sizes, saving valuable time and maintaining consistent quality and compliance.

SUBCOMPONENT CALCULATION

Precision for Complex Structures

TechCalc 3.0 allows users to **divide cylindrical and cubic components** into multiple subcomponents, enabling more accurate and flexible insulation design.

Each subcomponent can be configured with **different insulation materials, thicknesses, or specifications,** allowing for detailed modeling of v**ariable insulation layers** across a single equipment piece (e.g., tanks with different parts such as roof, wall and bottom part)

EXPANDED PIPE TYPES

Greater Flexibility for Real-World Applications

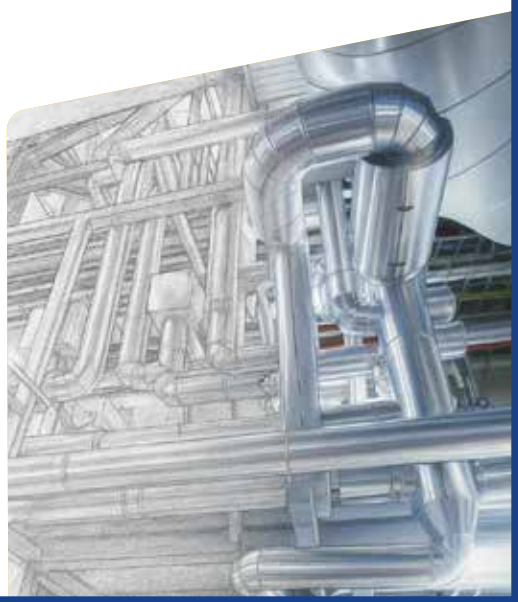
TechCalc 3.0 now supports a wider range of **pipe materials and dimension standards,** giving users greater flexibility to model real-world installations with precision.

You can easily select from pre-configured options or enter **custom dimensions** to suit project-specific needs.

Supported Pipe Types and Standards:

- **Copper pipes – Input by millimeter (mm), DN (nominal diameter),** or **NPS (nominal pipe size)**
- **Carbon steel pipes – mm, DN,** and **NPS** formats supported
- **Stainless steel pipes (SS) – mm, DN**, and **NPS** options
- **Synthetic pipes** – Dimensioned in **millimeters**
- **Ductile iron Class 52**
- **ASTM C585 NPS-compliant pipes**
- **Free input** – Customize any pipe dimension or material not listed in standard libraries

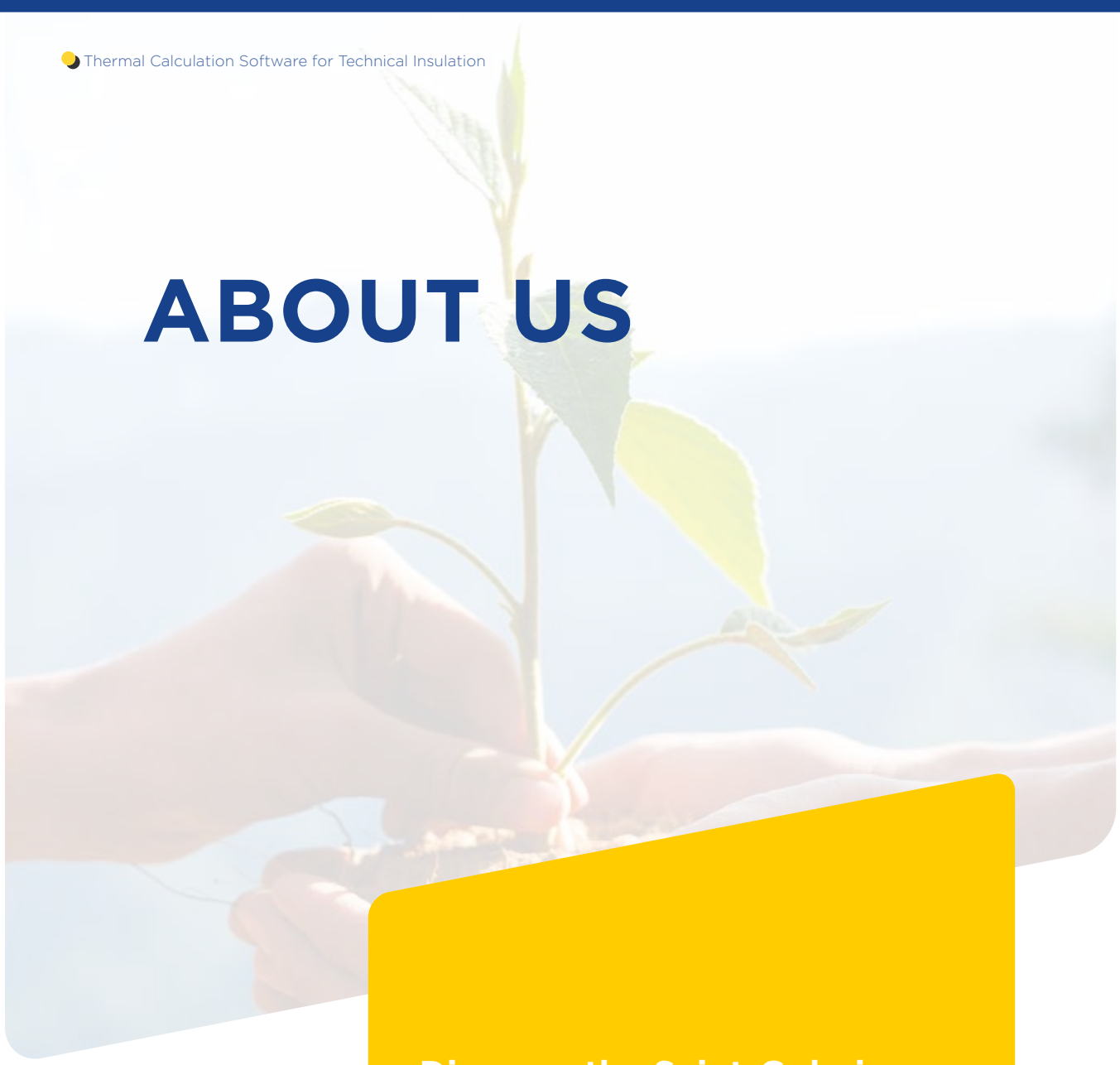
This expanded compatibility ensures **TechCalc 3.0** can be applied across a wide range of industrial, commercial, and infrastructure projects—streamlining workflows and improving calculation accuracy from the start.



GET THE MOST FROM NEW ISOVER TECHCALC 3.0

Take a look at our USER GUIDE for a deeper dive into our solution.

ABOUT US



Discover the Saint-Gobain Group, and read more about Saint-Gobain Technical Insulation, the world leading supplier of sustainable insulation solutions.

MAKING THE WORLD A BETTER HOME

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.

SAINT-GOBAIN

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

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Graphic design: Délicate Essence - 0142723676 - 2025