

## Rockassist® Asia

The online calculation program  
for technical insulation



[rockassist-asia.com](http://rockassist-asia.com)

**NOW  
ONLINE!**

The Rockassist Asia  
calculation tool -  
is free of charge!



# Expert knowledge inside



## Rockassist Asia

online calculation program for calculating the ideal insulation thickness, maximise operational energy efficiency and thus reduce energy costs and CO<sub>2</sub> emissions.

Register for free on [rockassist-asia.com](http://rockassist-asia.com)

EXPERT TOOL

# Rockassist Asia

## The online expert tool for technical insulation

### Jam-packed with expert skills and knowledge

Rockassist Asia is a unique calculation program available free of charge from ROCKWOOL. It enables you to calculate the ideal insulation thickness for technical installations and thus maximise energy efficiency and reduce energy costs and CO<sub>2</sub> emissions.

This expert tool puts the extensive consulting skills and experience in the field of technical insulation at your fingertips that only ROCKWOOL can offer.

In this brochure you will learn about our free customer-oriented service which gives you an easy way of calculating all of the important factors in technical insulation – from personal protection and heat loss to cooling of the media inside the equipment. It includes multiple analysis of various parameters, plausibility checks and ProRox product recommendations.

Rockassist Asia gives you all the options – no matter whether you just want to make a quick initial estimate or you're making a final decision on what the ideal insulation solution is, complete with an authoritative report on the results. Take advantage of them!

### A calculation program for everyone and everything

Anyone involved in the field of energy efficiency or technical insulation in any way can use Rockassist Asia for their specific purposes – it's a benefit to engineers, insulation installers, mechanical contractors, dealers, and plant operators alike. It is useful for providing your customers with detailed advice or making an initial estimate of the energy efficiency to be gained by insulating a technical installation.

Rockassist Asia is a helpful expert tool which pays off to use regularly and intensively for the following professionals, fields and company divisions:

- Mechanical engineer
- Purchasing manager
- Project manager
- Maintenance manager
- Consultants
- Managing director
- External sales personnel
- Internal sales staff
- Plant owner
- Engineer (EPC)
- Mechanical contractor
- Insulation contractor
- Distributor

Visit [www.rockassist-asia.com](http://www.rockassist-asia.com) to find out more.



## Rockassist Asia

Only true experts can offer benefits like these:

- Free thermotechnical calculation program
- Calculations in conformity with ASTM C680-10
- Automatically recommends the most optimal product solution
- Online-based tool – no installation necessary
- Simple intuitive operation
- Wide range of calculation options
- Plausibility check integrated into the system – straightforward graphic overview of the calculation results (personal protection, heat loss, etc.)
- Basic technical knowledge is all it takes to obtain expert-level results
- Simultaneous calculations in a single step
- Complete report on the results can be sent directly to customers via E-mail
- Runs on all of the standard operating systems and internet browsers
- Available on smartphone and tablet



Register online at  
[rockassist-asia.com](http://rockassist-asia.com)  
and start calculating  
for free!



# Technical skills you can count on

## State-of-the-art technological expertise meets +80 years of experience

Rockassist Asia was developed under the best conceivable professional conditions. After all, the combined skills and technical knowledge of our experts went into this unique calculation program.

This means that we aren't just giving you superficial answers to your questions – we have extensive knowledge of industrial installations. And it means we've put nothing less than our entire store of expertise and practical findings into the specific needs and requirements which are important to you. All of this is reflected in Rockassist Asia and provides you with the certainty that you can count on all of our expert knowledge in this unique calculation service.

You also benefit from ROCKWOOL Groups +80 years of experience which went into Rockassist Asia as well as our other helpful expert tools. This includes our extensive ProRox Process Manual, which is full of facts on technical insulation. In it, you will find definitive descriptions for every application situation and part of a facility, as well as explanations on how to solve problems.

## Expert knowledge for the ideal insulation solution

At temperatures in excess of 600°C in industrial plants, there's no doubt that technical insulation for individual areas of the plant is essential for ensuring personal safety, operational reliability, the economic efficiency of an industrial plant and the protection of the environment. Rockassist Asia assists you in calculating the ideal insulation solution.

This calculation tool provides you with every method of determining the ideal insulation thickness based on the main parameters, such as maximum surface temperature, ambient temperature, maximum heat loss, etc., and selecting the right ProRox product to achieve the greatest possible degree of efficiency in every respect.



# Efficient calculation - step by step

INPUT (EN ISO 12241)

**1** TYPE OF CALCULATION

Type of Calculation

Object

Diameter

Outer pipe diameter

Pipe length

Operating temperature

**2**

Quick check: heat loss (q), T

Quick check: heat loss (q), T & CO2 savings

Detailed check: heat loss (q), T & CO2 savings

Multiple insulation layers: heat loss (q), T & CO2 savings

Cooling of stagnant medium at given cooling time

Cooling of stagnant medium at given endtemperature

Cooling of flowing medium

Freezing time of stagnant medium

**3**

**4**

**5** INSULATION REQUIREMENTS

CUSTOMER INFORMATIONS

SAVE AND LOAD FILES

RESET TO DEFAULT

CALCULATE

## This is how easy it is:

Rockassist Asia is distinguished by its simple, intuitive operation and virtually self-explanatory presentation.

Its input panel **1** provides you with seven ways of calculating technical insulation under calculation option **2**.

In particular, its **Quick Check Mode** guides you directly to a quick recommendation on the insulation to use and the thickness to select. All you have to do is enter a few parameters, such as:

- 3** Shape and dimensioning of the object to be insulated
- 4** Operating temperature of the medium

In the process, the program factors in data such as ambient temperature, wind speed and the type of cladding are given a default value that is common in practice.

The **Detailed Check** function provides you with the full capabilities of Rockassist Asia. In it, you can enter the specific object parameters yourself under the heading **5** Insulation Requirements. The technical insulation will then be calculated based on precisely the application situation which you specified.

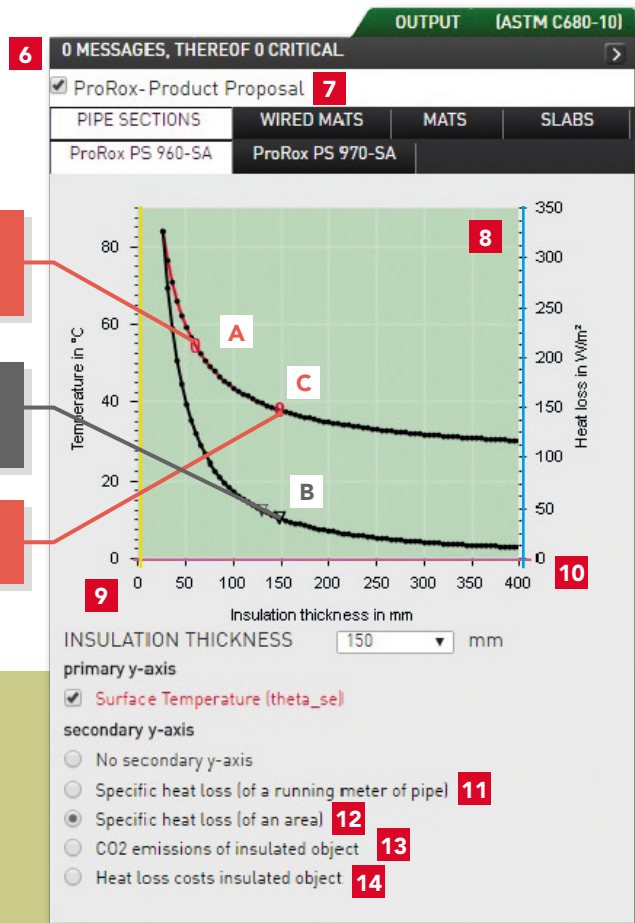
**The advantage:** It determines the optimised insulation in terms of insulation thickness and minimal heat loss.

Six additional calculation options are also available for experienced engineers and insulation installers who want to use the program on an in-depth level.

**A** Required thickness for personal protection (60 mm), corresponding surface temperature 54.4°C

**B** Required thickness for personal protection and heat loss (150 mm) corresponding heat loss (40.2 W/m<sup>2</sup>)

**C** Required thickness for personal protection (150mm), corresponding surface temperature 37.85°C



### Find solutions at first glance

The program's output field **6** immediately provides you with a specific product recommendation **7** and a diagram of the results **8**.

The primary Y-axis **9** displays the surface temperature. Activating the display options will show the secondary Y-axis **10**, which depicts heat losses with insulated pipes in W/m **11**, specific heat losses in W/m<sup>2</sup> **12**, CO<sub>2</sub> emissions of the insulated objects **13** or the costs of the heat losses in \$/m or \$/m<sup>2</sup> **14**. The curve shows the correlation between insulation thickness, surface temperature and heat loss **A B C**.

This makes it easier to identify optimal, cost-effective solutions. Here's one example: A low insulation thickness of just 60mm is often enough

to meet the maximum surface temperature of 60°C required by accident prevention regulations. The curve also depicts the surface temperatures and heat losses which greater insulation thicknesses will prevent.

This means that you can tell at first glance that 150 mm-thick insulation will markedly reduce heat losses at only marginally higher costs.

**15 INSULATION SYSTEM**

Insulation	s [mm]	lambda_b [W/mK]	theta_si [°C]	theta_sa [°C]
ProRox PS 960-SA	150	0.0473	250.0	37.8

**RESULTS**

**INSULATION THICKNESS** 150 mm

**PERSONNEL PROTECTION**

Wind speed for surface temperature calculations 0.00 m/s  
 Surface Temperature [theta\_sa] 37.8 °C  
 Outer convective heat transfer coefficient 2.60 -  
 Heat transfer coefficient as a result of radiation 0.32 -  
 External surface coefficient of heat transfer 2.93 -

**HEAT LOSS / COOLING / ENERGY SAVINGS**

Wind speed for heat loss calculations 1.00 m/s  
 Heat loss insulated object 32.3 W/m  
 Heat loss insulated object [q] 40.2 W/m²  
 Total heat loss of the insulated object [Q] 458,447 kWh/a

**ECONOMIC AND ECOLOGIC**

CO2-Savings 5,189 t/a  
 Ratio of CO2-savings 97.1 %  
 Heat loss cost savings 1,525,213 \$/a  
 Ratio of cost savings 97.1 %

**16 ROCKASSIST ASIA (ASTM C650-16) Online Thermal Calculation Tool**

**DESIGN CONDITIONS**

**TYPE OF CALCULATION ACCORDING TO ASTM C650-16**  
 Quick Check (Heat loss only) 1 and CFE control

**OBJECT**  
 Description: Plate  
 Orientation: Horizontal  
 Dimensions: 100 mm x 100 mm  
 Outer edge diameter: 114.3 mm  
 Plate length: 1.219 m  
 Heat thickness: 3.8 mm  
 Operating temperature: 250.0 °C

**INSULATION SYSTEM**  
 Insulation type: Polystyrene  
 Support Construction: Aluminum bright color  
 Surface finish: Without support  
 Installation: Without support

**AMBIENT CONDITIONS**  
 Ambient temperature: 25.0 °C  
 Radiation protection: 0.00 W/m²  
 Heat loss, freezing, cooling: 1.00 W/m²

**ECONOMIC DESIGN CONDITIONS**  
 Energy cost: 0.10 \$/kWh  
 Annual operation time: 8,760 hrs  
 Lifetime of insulation: 1 a

**INSULATED DESIGN CONDITIONS**  
 Plate cost: 34.0 \$/m²  
 CO2 factor: 1.07250 t/m²

**RESULTS FOR CHOSEN THICKNESS ONLY - MORE RESULTS ON THE NEXT PAGE!**

Insulation thickness [mm]	Surface temp. at 25 °C ambient temp. and 1.00 m/s wind speed [°C]	Heat loss of 10 °C ambient temperature and 1.00 m/s wind speed [W/m²]	Annual savings compared to uninsulated situation [kWh/m²]
100	57.4	62.2	1,320.0
150	37.8	32.3	1,525.2

**PROXY SHEET**

Production	A	B	C	D	E	F	G	H	I	J	K	L	M
PROXY SHEET	100	150	200	250	300	350	400	450	500	550	600	650	700

**PDF**

**Quick calculation, detailed overview**

Below the diagram depiction, you will find the Result table **15**, which shows the insulation system set up and the detailed results, such as insulation thickness, surface temperatures, total heat loss of the insulated object savings on energy (heat loss) costs and CO<sub>2</sub> emission reduction, etc. Rockassist Asia thus provides you with a complete overview of the data based on the calculation made.

**Save, print and send via E-mail**

Last but not least, Rockassist Asia provides you with perfect data management and transfer service. You can use the program to generate a comprehensive report on the results **16**, which you can save and print, if desired. If you wish, you can even save the report as a PDF file and forward it directly to your customer.





## Rockassist Asia

Want to use it right away?  
Nothing could be simpler.  
Sign up now at [rockassist-asia.com](http://rockassist-asia.com)!

### All you have to do is sign up

- 1 Visit our website: [www.rockassist-asia.com](http://www.rockassist-asia.com)
- 2 Click on the "Register" button and enter your contact information

**And then you're all set  
to start calculating!**



**Knowledge from expert to expert**  
ROCKWOOL certainly won't leave you on your own when it comes to making the best use of Rockassist Asia. On your request we provide training to instruct you on all the details of our expert tool.

**Please contact your local  
representative for more information.**

**Rockassist Asia  
Training  
on request!**

# ROCKWOOL IN ASIA

## **ROXUL ROCKWOOL**

### **Technical Insulation India Pvt. Ltd**

Wing B-2, 2nd Floor, Unit No.206  
Boomerang, Near Chandivali Film Studio  
Chandivali Farm Road, Andheri (E)  
Mumbai - 400072, Maharashtra, India.  
T (+91) 022 6715 7700  
F (+91) 022 6715 7710  
Hotline at 1800 266 9861

### **Indonesia Representative Office**

#### **ROCKWOOL Malaysia Sdn Bhd**

Wisma Pondok Indah Tower 3  
17th Floor, Jl. Sultan Iskandar Muda V  
Jakarta 12310, Indonesia  
T (+62) 21 2965 9071  
F (+62) 21 2953 8998

#### **ROCKWOOL Malaysia Sdn Bhd**

Lot 4, Solok Waja 1  
Bukit Raja Industrial Estate  
41050 Klang, Selangor, Malaysia  
T (+60) 3 3341 3444  
F (+60) 3 3342 7290

### **ROCKWOOL Building Materials (Singapore) Pte. Ltd.**

No 7, Tuas Avenue 1, Jurong Town,  
Singapore 639492  
T (+65) 6861 4722  
F (+65) 6862 3533

### **ROCKWOOL (Thailand) Limited**

B.GRIMM Building 11th Floor  
No.5, Soi Krungthepkreetha 4  
Huamark, Bangkok  
Bangkok 10240, Thailand  
T (+66) 2731 7511-14  
F (+66) 2731 7510

### **Vietnam Representative Office**

#### **ROCKWOOL (Thailand) Limited**

9th Floor, TNR Tower  
180-192 Nguyen Cong Tru Street, District 1  
Ho Chi Minh City, Vietnam  
T (+84) 8 6288 2009  
F (+84) 8 6288 4691

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## ROCKWOOL Technical Insulation

With our product line, ProRox, we cover the whole process & power generated industries, providing a full range of products and systems for the thermal, acoustical and fire safe insulation of technical installations. Besides sustainable products we offer reliable expert advice, from documentation to delivery and after sales service. Throughout the whole value chain from specifier, through dealer to contractor and installer we aim to create value. We don't just sell products, we supply solutions. It's this total approach that makes us the ideal choice for professionalism, innovation and trust.

All of the information and explanations in this brochure are based on our latest findings and knowledge and

are therefore up-to-date. The examples described in this document serve only for illustrative purposes and do not take special circumstances of specific cases into account. We place great value upon the continuous further development of its products, to the extent that we constantly work to refine and improve our products without prior notice. We therefore recommend that you use the most recent edition of our publications, as our wealth of experience and knowledge is always growing. Should you require related information for your specific application or have any technical queries, please contact our sales department or visit our website

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