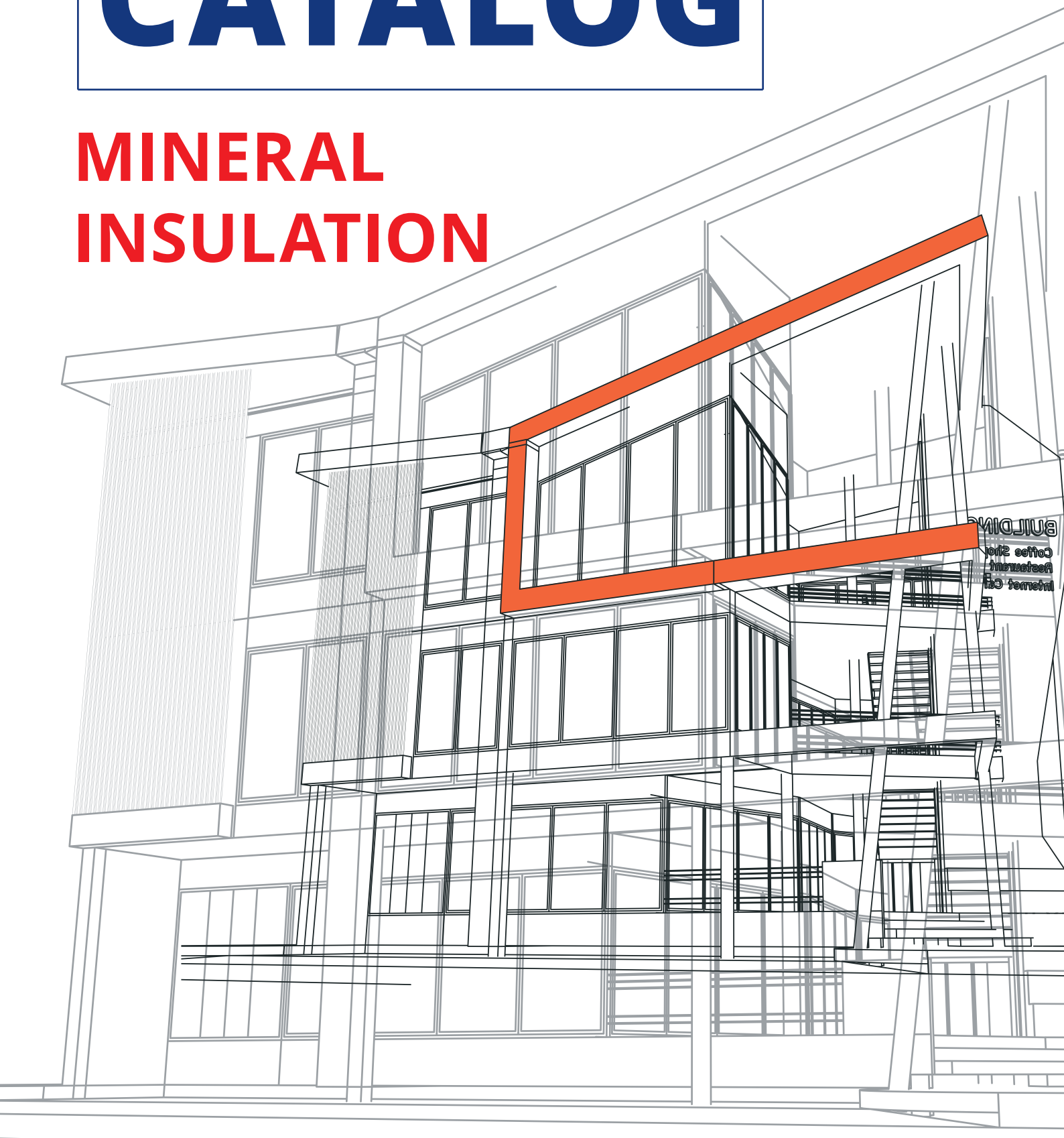
SWEETONDALE

Materials

# CATALOG

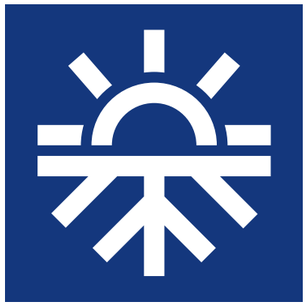
## MINERAL INSULATION



# CONTENT

# PROPERTIES AND ADVANTAGES OF THE SWEETONDALE STONE WOOL

# PROPERTIES OF THE SWEETONDALE STONE WOOL



### EFFECTIVE THERMAL INSULATION

The SWEETONDALE stone wool is a highly effective thermal insulation material. The high resistance to a heat transfer is achieved due to holding a large amount of air in a stall position inside the insulation with the help of closely interwoven thinnest stone wool fibers.

### FIRE SAFETY

The main raw material for the production of the SWEETONDALE stone wool is basaltic and gabbroic rocks. As a result, all SWEETONDALE products are non-flammable. The melting temperature of the fibers exceeds 1000 °C, which allows the use of stone wool products within a wide range of working temperatures.
In the event of a fire, the SWEETONDALE thermal insulation keeps heat from spreading, prevents the spread of fire, protecting building structures from deformation and destruction. This gives the additional time needed to evacuate people, documents and property.
An important factor when choosing this material is that, the SWEETONDALE thermal insulation does not emit harmful or poisonous substances under the influence of high temperatures.

### RESISTANCE TO DEFORMATION

The high resistance of SWEETONDALE materials to mechanical loads is ensured by the fiber properties and the stone wool structure. These parameters were set individually for each material of the SWEETONDALE product line, based on the field of application of thermal insulation.
In different structures, the material takes up different loads in terms of force, direction and duration of an impact. In order to maintain the shape, thickness and reliable fastening of a material in a structure, the thermal insulation materials must have the high resistance to deformations. This property, in turn, is necessary for reliable and durable insulation of a structure without the increasing loss of quality over time.

### PROPER SOUND ABSORPTION

The fibrous structure of the SWEETONDALE stone wool products provides excellent acoustic and sound-absorbing properties of the material. The SWEETONDALE products have high sound absorption coefficients in a wide frequency range, which helps to reduce the level of airborne and impact noise when used in sound-insulating structures of various types: partitions, floors and other structures.

### HYDROPHOBICITY

The presence of moisture in the insulation negatively affects its thermal insulation properties, a service life and a microclimate of the room. If the insulation becomes wet, the expensive and long-term measures are required to eliminate the consequences, which often consist of replacing the insulation. All thermal insulation materials based on the SWEETONDALE stone wool are treated with waterproofing agents that give the water-repellent properties to the insulation.

### VAPOR PERMEABILITY

Materials based on the SWEETONDALE stone wool have the high vapor permeability, do not retain a moisture coming from the room in the form of steam formed in the process of human activity, and almost always remain dry.

## BIOSTABILITY

The SWEETONDALE products fully meet the criteria of biological stability, which is confirmed by numerous tests and trials, as well as the field data.
The SWEETONDALE materials based on stone wool are able to resist the influence of various macro- and microorganisms: the material does not support the vital activity of bacteria, mold, fungi, and is also not appropriate as a habitat for insects and rodents.

## CHEMICAL RESISTANCE

The SWEETONDALE products are made on the basis of basalt group rocks. Natural minerals of this group are characterized by high chemical resistance to the action of various substances: oils, solvents, paints, acidic and alkaline media. The SWEETONDALE material on the basis of basalt group rocks can be safely used with any type of building materials, and can also be used to filter aggressive agents in a number of chemical industries.

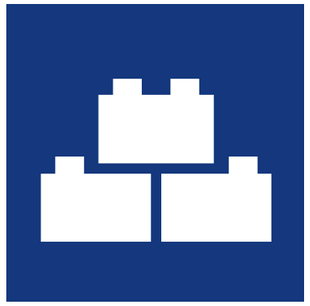
## ENERGY EFFICIENCY

SWEETONDALE Company develops, manufactures and promotes on the construction market materials and systems that allow minimizing heat loss and increasing the efficiency of thermal protection of buildings, structures and industrial facilities.
By introducing energy-efficient technologies and materials, we achieve a significant reduction in heat loss through the enclosing structures of buildings and constructions.

SWEETONDALE Company conducts research on the energy efficiency using thermal insulation systems with stone wool materials. The use of such systems and materials makes it possible to significantly reduce the consumption of energy resources for heating.
So, for example, the insulation of facades in a residential apartment building, taking into account the increase in tariffs for thermal energy, will pay off after an average of 10 years of its operation.

## BASED ON BASALT

The main raw material for the production of thermal insulation slabs made of stone wool is basaltic and gabbroic rocks - magmatic deposits that arose as a result of a volcanic eruption. This unique raw material is natural, environmentally friendly and safe.
In order to obtain the high-quality fiber, the charged material composition is carefully selected at the plant.



## EASY INSTALLATION

Stone wool slabs are easily cut with available tools: a knife or a fine-toothed saw. It is easy to make a pattern of required dimensions and to install it in the structure, and it is also easy to control the quality of the installation.

## STABILITY OF DIMENSIONS

Stone wool slabs are produced with guaranteed stable geometric dimensions, thanks to the automation and mechanization of the technological process.
Clear and stable geometric dimensions make it possible to mount plates with a tight fit to each other or to the frame of a building structure, depending on the installation conditions.

# ADVANTAGES OF THE SWEETONDALE STONE WOOL

### ENVIRONMENTAL COMPATIBILITY

The caring for the environment during the production of materials is one of the priorities of SWEETONDALE Company, as well as another field of using innovations.
As one of the leaders in the stone wool production in Ukraine, SWEETONDALE constantly improves its products and service, uses the modern equipment and environmental protection technologies.
All products developed and manufactured by the Company comply with international sanitary and environmental standards, are safe for human health and natural environment, have completed a full cycle of both mandatory and voluntary certification, and are allowed for use in Ukraine and abroad.

### DURABILITY

The durability of building structures depends on a number of factors: correctly executed calculations at the stage of design and selection of structures, high-quality installation, a compliance with the conditions of transportation and storage of construction materials, and other things.
The many years of experience, modern equipment, constant improvement of technologies, introduction of the latest developments in practice allow SWEETONDALE to produce stone wool products of consistently high quality, which preserves the declared characteristics throughout the entire useful life of buildings and structures. A safety and a quality of the SWEETONDALE stone wool products are confirmed by all necessary documents.

### COMPREHENSIVE SOLUTIONS

SWEETONDALE Company produces not only material, but also offers optimal ready-made solutions that have proven themselves and are popular for many years. A good material compatibility is one of the basic conditions for obtaining a reliable insulation system. That is why our experts, together with leading research institutes, have developed professional technical solutions - the SWEETONDALE Building Systems. Main criteria of systems: a compatibility of components, a durability of construction and high quality.
At SWEETONDALE Company, you can always purchase the optimal ready-made solution and receive qualified assistance with its installation.

# INDUSTRIAL AND CIVIL CONSTRUCTION

THERMOWOOL LIGHT EXTRA 30 / THERMOWOOL LIGHT OPTIMA 35 /
THERMOWOOL ACOUSTIC 40 / THERMOWOOL BLOCK STANDARD 45 /
THERMOWOOL FAS EXTRA 90 / THERMOWOOL FAS STANDART 100 /
THERMOWOOL FAS COTTAGE 105 / THERMOWOOL FAS OPTIMA 120 /
THERMOWOOL FAS EFFECT 135 / THERMOWOOL ROOF N OPTIMA 110 /
THERMOWOOL ROOF N PROF 120 / THERMOWOOL ROOF PROF 160 /
THERMOWOOL ROOF V EXTRA 170 / THERMOWOOL ROOF V OPTIMA 180 /
THERMOWOOL ROOF V PROF 190 / THERMOWOOL SANDWICH WALL 110

# THERMOWOOL LIGHT EXTRA 30

## HEAT-INSULATING MINERAL WOOL BOARDS

**Production in compliance with the standard EN 13162.**

**MW-EN 13162-T2- DS (70,-)-DS(23,90)- CS(10)0,5 -WS-WL(P)-MU1- RtF: A1**


Non-flammable stone wool slabs made of basaltic and gabbroic rocks

### Product Description

THERMOWOOL LIGHT EXTRA 30 is non-flammable, hydrophobizated heat- and sound-insulating boards made of mineral wool based on the basalt group rocks.

### Scope of application:

THERMOWOOL LIGHT EXTRA 30 slabs are intended for use in civil and industrial construction as a heat-insulating layer, in new construction and reconstruction of buildings and structures for different purposes.
It is used as the single-layer thermal insulation or the top layer in two- or three-layer insulation with the arrangement of a "wet" or "dry" screed on the insulation surface; and also, as the bottom layer for two- or three-layer thermal insulation of roofs.

### Storage:

Slabs should be stored packed and stacked on pallets divided by types and sizes. During the entire storage period, the material must be protected from atmospheric precipitation. The height of the stack of slabs should not exceed 3 m upon storage.

### Packaging Details:

Polyethylene shrink wrap is used for packaging. The method of wrapping and fixing a packaging material must ensure the reliable and strong packaging of slabs, their protection during loading and unloading operations, transportation and storage.

## Technical Characteristics*

| ESSENTIAL CHARACTERISTICS | PERFORMANCE |
|---|---|
| Declared thermal conductivity at 10 °C, $\lambda_D$, W/m*K | 0,038 |
| Limit deviations length/width, mm | ±2/±1,5 % |
| Limit deviations of thickness, mm | T2 |
| Thickness, (with increments of 10 mm), mm | 50-100; 150-200 |
| Deviation from squareness, mm/m | < 5 |
| Deviation from flatness, mm | < 6 |
| Compressive stress at 10% deformation, kPa | CS(10)0,5 |
| Dimensional stability, %:<br>- at specified temperature<br>- under specified temperature (23°C) and humidity conditions (90%R.H.) | <br>DS(70,-) less than 1<br>DS(23,90) less than 1 |
| Reaction to fire, euroclass | A1 |
| Water Absorption during Short/<br>Longterm Immersion kg/m² | WS less than 1<br>WL(P) less than 3 |
| Water vapour transmission, MU | MU1 |
| Dangerous substances | Does not include dangerous substances |

* Harmonized technical specification - EN 13162:2012 + A1:2015



# THERMOWOOL LIGHT OPTIMA 35

## HEAT-INSULATING MINERAL WOOL BOARDS

**Production in compliance with the standard EN 13162.**

**MW-EN 13162-T4- DS (70,-)-DS(23,90)-WS-WL(P)-MU1- RtF: A1**


Non-flammable stone wool slabs made of basaltic and gabbroic rocks

### Product Description

THERMOWOOL LIGHT OPTIMA 35 is non-flammable, hydrophobizated heat- and sound-insulating boards made of mineral wool based on the basalt group rocks.

### Scope of application:

THERMOWOOL LIGHT OPTIMA 35 slabs are intended for use in civil and industrial construction as a heat-insulating layer, in new construction and reconstruction of buildings and structures for different purposes.
It is used as the single-layer thermal insulation or the top layer in two- or three-layer insulation with the arrangement of a "wet" or "dry" screed on the insulation surface; and also, as the bottom layer for two- or three-layer thermal insulation of roofs.

### Storage:

Slabs should be stored packed and stacked on pallets divided by types and sizes. During the entire storage period, the material must be protected from atmospheric precipitation. The height of the stack of slabs should not exceed 3 m upon storage.

### Packaging Details:

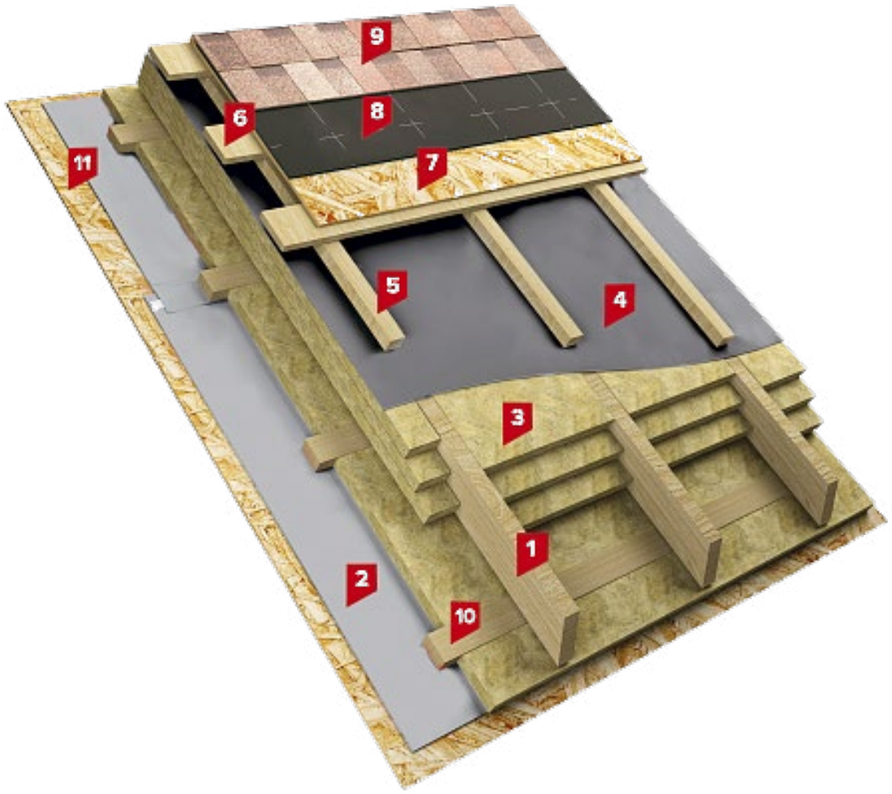
Polyethylene shrink wrap is used for packaging. The method of wrapping and fixing a packaging material must ensure the reliable and strong packaging of slabs, their protection during loading and unloading operations, transportation and storage.

## Technical Characteristics*

| ESSENTIAL CHARACTERISTICS | PERFORMANCE |
|---|---|
| Declared thermal conductivity at 10 °C, $\lambda_D$, W/m*K | 0,036 |
| Limit deviations length/width, mm | ±2/±1,5 % |
| Limit deviations of thickness, mm | T4 |
| Thickness, (with increments of 10 mm), mm | 50-100; 130-200 |
| Deviation from squareness, mm/m | < 5 |
| Deviation from flatness, mm | < 6 |
| Dimensional stability, %:<br>- at specified temperature<br>- under specified temperature (23°C) and humidity conditions (90%R.H.) | <br>DS(70,-) less than 1<br>DS(23,90) less than 1 |
| Reaction to fire, euroclass | A1 |
| Water Absorption during Short/<br>Longterm Immersion kg/m² | WS less than 1<br>WL(P) less than 3 |
| Water vapour transmission, MU | MU1 |
| Dangerous substances | Does not include dangerous substances |

* Harmonized technical specification - EN 13162:2012 + A1:2015

# OUR SOLUTIONS




## Materials for solution

1. Wooden rafter system
2. Vapour barrier film
3. Slabs of stone wool THERMOWOOL LIGHT
4. Superdiffusion membrane
5. Counter beam for creating ventilation channels
6. Sparse crate
7. Wooden flooring (OSB-3; FSF)
8. Underlay carpet
9. Bituminous shingles
10. Step crate for insulation
11. Attic lining

# THERMOWOOL ACOUSTIC 40

## HEAT-INSULATING MINERAL WOOL BOARDS

**Production in compliance with the standard EN 13162.**

**MW-EN 13162-T4-DS(70, -) - DS(23;90) - CS(10)0,5- WS-WL(P)-MU1-AW (0,7)- RtF: A1**


Non-flammable stone wool slabs made of basaltic and gabbroic rocks

### Product Description

THERMOWOOL ACOUSTIC 40 is non-flammable, hydrophobizated heat- and sound-insulating boards made of mineral wool based on the basalt group rocks. The special arrangement of the fibers provides high sound absorption properties.

### Scope of application:

THERMOWOOL ACOUSTIC 40 boards are recommended for use as a sound absorber for the construction of framed partitions and claddings, for suspended ceilings, as well as for slabs in the unloaded scheme of insulating material laying.

### Storage:

Slabs should be stored packed and stacked on pallets divided by types and sizes. During the entire storage period, the material must be protected from atmospheric precipitation. The height of the stack of slabs should not exceed 3 m upon storage.

### Packaging Details:

Polyethylene shrink wrap is used for packaging. The method of wrapping and fixing a packaging material must ensure the reliable and strong packaging of slabs, their protection during loading and unloading operations, transportation and storage.

### Technical Characteristics*

| ESSENTIAL CHARACTERISTICS | PERFORMANCE |
|---|---|
| Declared thermal conductivity at 10 °C, $\lambda_D$, W/m*K | 0,037 |
| Limit deviations length/width, mm | ±2/±1,5 % |
| Limit deviations of thickness, mm | T4 |
| Thickness, (with increments of 10 mm), mm | 50-200 |
| Deviation from squareness, mm/m | < 5 |
| Deviation from flatness, mm | < 6 |
| Compressive stress at 10% deformation, kPa | CS(10)0,5 |
| Dimensional stability, %:<br>- at specified temperature<br>- under specified temperature (23°C) and humidity conditions (90%R.H.) | <br>DS(70,-) less than 1<br>DS(23,90) less than 1 |
| Reaction to fire, euroclass | A1 |
| Water Absorption during Short/<br>Longterm Immersion kg/m² | WS less than 1<br>WL(P) less than 3 |
| Water vapour transmission, MU | MU1 |
| Dangerous substances | Does not include dangerous substances |
| Weighted sound absorption coefficient | AW (0,7)-40mm<br>AW (1,0) -100-200 mm |

* Harmonized technical specification - EN 13162:2012 + A1:2015



# THERMOWOOL BLOCK STANDARD 45

## HEAT-INSULATING MINERAL WOOL BOARDS

**Production in compliance with the standard EN 13162.**

**MW-EN 13162-T4- DS(70,-) - DS(23,90)-CS(10)0,5- WS-WL(P)-MU1 RtF: A1**


Non-flammable stone wool slabs made of basaltic and gabbroic rocks

### Product Description

THERMOWOOL BLOCK STANDARD 45 is non-flammable, hydrophobizated heat- and sound-insulating boards made of mineral wool based on the basalt group rocks.

### Scope of application:

THERMOWOOL BLOCK STANDARD 45 boards are recommended for use in industrial and civil construction as thermal and sound insulations of various types of multilayer masonry, frame walls (including external ones) with different types of exterior finish (a siding). And also, it is used as the first (internal) heat-insulating layer in curtain wall systems with an air gap in the two-layer scheme.

### Storage:

Slabs should be stored packed and stacked on pallets divided by types and sizes. During the entire storage period, the material must be protected from atmospheric precipitation. The height of the stack of slabs should not exceed 3 m upon storage.

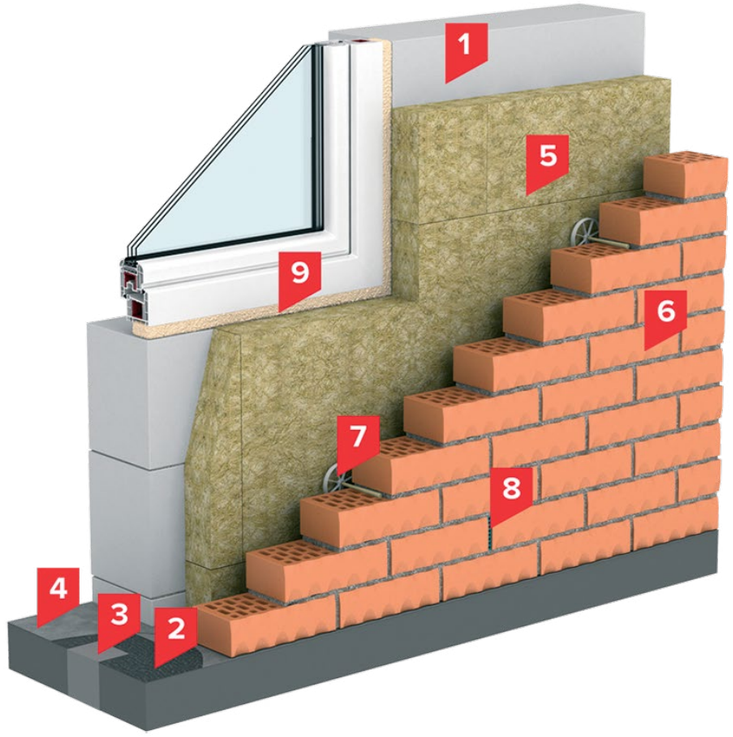
### Packaging Details:

Polyethylene shrink wrap is used for packaging. The method of wrapping and fixing a packaging material must ensure the reliable and strong packaging of slabs, their protection during loading and unloading operations, transportation and storage.

### Technical Characteristics*

| ESSENTIAL CHARACTERISTICS | PERFORMANCE |
|---|---|
| Declared thermal conductivity at 10 °C, $\lambda_D$, W/m*K | 0,036 |
| Limit deviations length/width, mm | ±2/±1,5 % |
| Limit deviations of thickness, mm | T4 |
| Thickness, (with increments of 10 mm), mm | 50-200 |
| Deviation from squareness, mm/m | < 5 |
| Deviation from flatness, mm | < 6 |
| Compressive stress at 10% deformation, kPa | CS(10)0,5 |
| Dimensional stability, %:<br>- at specified temperature<br>- under specified temperature (23°C) and humidity conditions (90%R.H.) | <br>DS(70,-) less than 1<br>DS(23,90) less than 1 |
| Reaction to fire, euroclass | A1 |
| Water Absorption during Short/<br>Longterm Immersion kg/m² | WS less than 1<br>WL(P) less than 3 |
| Water vapour transmission, MU | MU1 |
| Dangerous substances | Does not include dangerous substances |

* Harmonized technical specification - EN 13162:2012 + A1:2015

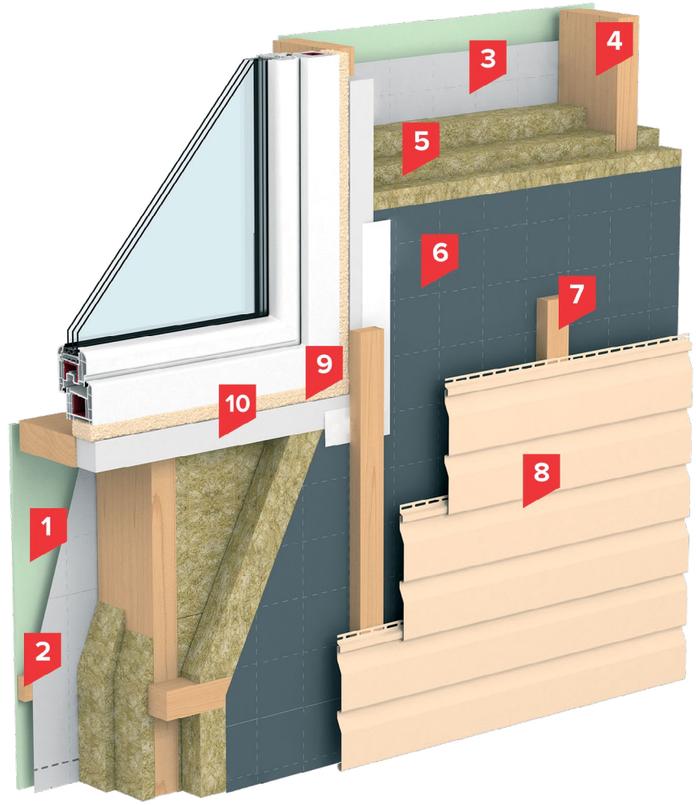



## Materials for solution

1. Bearing/self-supporting part of the walls
2. Support floor with thermal insulation system
3. Extruded polystyrene foam CARBOLEX PROF
4. Waterproofing cut-off HYDROBASE ULTRA
5. Mineral wool boards THERMOWOOL BLOCK
6. Facing bricks
7. Flexible basalt plastic ties with a gap lock
8. Supply and exhaust vents (vertical joints)
9. Mounting foam








## Materials for solution

1. Inner lining
2. Counter rails
3. Vapour barrier film
4. Building frame
5. Mineral wool boards THERMOWOOL BLOCK
6. Superdiffusion membrane
7. Counter battens with a pitch of 400 mm, 30-50 mm thick
8. Vinyl siding
9. Mounting foam
10. XPS bars

# THERMOWOOL FAS EXTRA 90

## HEAT-INSULATING MINERAL WOOL BOARDS

**Production in compliance with the standard EN 13162.**

**MW-EN 13162-T5- DS (70,-)-DS(23,90)-CS(10)15-TR5-PL(5)50 -WS-WL(P)-MU1 RtF: A1**


Non-flammable stone wool slabs made of basaltic and gabbroic rocks

### Product Description

THERMOWOOL FAS EXTRA 90 is non-flammable, hydrophobizated heat- and sound-insulating slabs made of mineral wool based on the basalt group rocks.

### Scope of application:

THERMOWOOL FAS EXTRA 90 slabs are intended for use in civil and industrial construction as thermal and sound insulation in systems of external wall insulation with a protective and decorative layer of fine plaster.

### Storage:

Slabs should be stored packed and stacked on pallets divided by types and sizes. During the entire storage period, the material must be protected from atmospheric precipitation. The height of the stack of slabs should not exceed 3 m upon storage.

### Packaging Details:

Polyethylene shrink wrap is used for packaging. The method of wrapping and fixing a packaging material must ensure the reliable and strong packaging of slabs, their protection during loading and unloading operations, transportation and storage.

### Technical Characteristics*

| ESSENTIAL CHARACTERISTICS | PERFORMANCE |
|---|---|
| Declared thermal conductivity at 10 °C, $\lambda_D$, W/m*K | 0,036 |
| Limit deviations length/width, mm | ±2/±1,5 % |
| Limit deviations of thickness, mm | T5 |
| Thickness, (with increments of 10 mm), mm | 50-200 |
| Deviation from squareness, mm/m | < 5 |
| Deviation from flatness, mm | < 6 |
| Compressive stress at 10% deformation, kPa | CS(10)15 |
| Tensile strength perpendicular to faces, kPa | TR5 |
| Point Load, N | PL(5)50 |
| Dimensional stability, %:<br>- at specified temperature<br>- under specified temperature (23°C) and humidity conditions (90%R.H.) | <br>DS(70,-) less than 1<br>DS(23,90) less than 1 |
| Reaction to fire, euroclass | A1 |
| Water Absorption during Short/<br>Longterm Immersion kg/m² | WS less than 1<br>WL(P) less than 3 |
| Water vapour transmission, MU | MU1 |
| Dangerous substances | Does not include dangerous substances |

* Harmonized technical specification - EN 13162:2012 + A1:2015



# THERMOWOOL FAS STANDART 100

## HEAT-INSULATING MINERAL WOOL BOARDS

**Production in compliance with the standard EN 13162.**

**MW-EN 13162-T5- DS (70,-)-DS(23,90)-CS(10)20-TR10-PL(5)50 -WS-WL(P)-MU1 RtF: A1**


Non-flammable stone wool slabs made of basaltic and gabbroic rocks

### Product Description

THERMOWOOL FAS STANDART 100 is non-flammable, hydrophobizated heat- and sound-insulating slabs made of mineral wool based on the basalt group rocks.

### Scope of application:

THERMOWOOL FAS STANDART 100 slabs are intended for use in civil and industrial construction as thermal and sound insulation in systems of external wall insulation with a protective and decorative layer of fine plaster.

### Storage:

Slabs should be stored packed and stacked on pallets divided by types and sizes. During the entire storage period, the material must be protected from atmospheric precipitation. The height of the stack of slabs should not exceed 3 m upon storage.

### Packaging Details:

Polyethylene shrink wrap is used for packaging. The method of wrapping and fixing a packaging material must ensure the reliable and strong packaging of slabs, their protection during loading and unloading operations, transportation and storage.

### Technical Characteristics*

| ESSENTIAL CHARACTERISTICS | PERFORMANCE |
|---|---|
| Declared thermal conductivity at 10 °C, $\lambda_D$, W/m*K | 0,036 |
| Limit deviations length/width, mm | ±2/±1,5 % |
| Limit deviations of thickness, mm | T4 |
| Thickness, (with increments of 10 mm), mm | 50-200 |
| Deviation from squareness, mm/m | < 5 |
| Deviation from flatness, mm | < 6 |
| Compressive stress at 10% deformation, kPa | CS(10)20 |
| Point Load, N | PL(5)50 |
| Dimensional stability, %:<br>- at specified temperature<br>- under specified temperature (23°C) and humidity conditions (90%R.H.) | <br>DS(70,-) less than 1<br>DS(23,90) less than 1 |
| Reaction to fire, euroclass | A1 |
| Water Absorption during Short/<br>Longterm Immersion kg/m² | WS less than 1<br>WL(P) less than 3 |
| Water vapour transmission, MU | MU1 |
| Dangerous substances | Does not include dangerous substances |

* Harmonized technical specification - EN 13162:2012 + A1:2015

# THERMOWOOL FAS COTTAGE 105

## HEAT-INSULATING MINERAL WOOL BOARDS

**Production in compliance with the standard EN 13162.**

**MW-EN 13162-T5-DS(70,-) DS(23,90)-CS(10)30-TR10-PL(5)300-WS-WL(P)-MU1 RtF: A1**


Non-flammable stone wool slabs made of basaltic and gabbroic rocks

### Product Description

THERMOWOOL FAS COTTAGE 105 is non-flammable, hydrophobizated heat- and sound-insulating slabs made of mineral wool based on the basalt group rocks.

### Scope of application:

THERMOWOOL FAS COTTAGE 105 slabs are intended for use in civil and industrial construction as thermal and sound insulation in systems of external wall insulation with a protective and decorative layer of fine plaster.

### Storage:

Slabs should be stored packed and stacked on pallets divided by types and sizes. During the entire storage period, the material must be protected from atmospheric precipitation. The height of the stack of slabs should not exceed 3 m upon storage.

### Packaging Details:

Polyethylene shrink wrap is used for packaging. The method of wrapping and fixing a packaging material must ensure the reliable and strong packaging of slabs, their protection during loading and unloading operations, transportation and storage.

### Technical Characteristics*

| ESSENTIAL CHARACTERISTICS | PERFORMANCE |
|---|---|
| Declared thermal conductivity at 10 °C, $\lambda_D$, W/m*K | 0,036 |
| Limit deviations length/width, mm | ±2/±1,5 % |
| Limit deviations of thickness, mm | T5 |
| Thickness, (with increments of 10 mm), mm | 50-200 |
| Deviation from squareness, mm/m | < 5 |
| Deviation from flatness, mm | < 6 |
| Compressive stress at 10% deformation, kPa | CS(10)30 |
| Tensile strength perpendicular to faces, kPa | TR10 |
| Point Load, N | PL(5)300 |
| Dimensional stability, %:<br>- at specified temperature<br>- under specified temperature (23°C) and humidity conditions (90%R.H.) | <br>DS(70,-) less than 1<br>DS(23,90) less than 1 |
| Reaction to fire, euroclass | A1 |
| Water Absorption during Short/ Longterm Immersion kg/m² | WS less than 1<br>WL(P) less than 3 |
| Water vapour transmission, MU | MU1 |
| Dangerous substances | Does not include dangerous substances |

* Harmonized technical specification - EN 13162:2012 + A1:2015



# THERMOWOOL FAS OPTIMA 120

## HEAT-INSULATING MINERAL WOOL BOARDS

**Production in compliance with the standard EN 13162.**

**MW-EN 13162-T5-DS(70,-) DS(23,90)-CS(10)30-TR15-PL(5)200-WS-WL(P)-MU1 RtF: A1**


Non-flammable stone wool slabs made of basaltic and gabbroic rocks

### Product Description

THERMOWOOL FAS OPTIMA 120 is non-flammable, hydrophobizated heat- and sound-insulating slabs made of mineral wool based on the basalt group rocks.

### Scope of application:

THERMOWOOL FAS OPTIMA 120 slabs are intended for use in civil and industrial construction as thermal and sound insulation in systems of external wall insulation with a protective and decorative layer of fine plaster.

### Storage:

Slabs should be stored packed and stacked on pallets divided by types and sizes. During the entire storage period, the material must be protected from atmospheric precipitation. The height of the stack of slabs should not exceed 3 m upon storage.

### Packaging Details:

Polyethylene shrink wrap is used for packaging. The method of wrapping and fixing a packaging material must ensure the reliable and strong packaging of slabs, their protection during loading and unloading operations, transportation and storage.

### Technical Characteristics*

| ESSENTIAL CHARACTERISTICS | PERFORMANCE |
|---|---|
| Declared thermal conductivity at 10 °C, $\lambda_D$, W/m*K | 0,037 |
| Limit deviations length/width, mm | ±2/±1,5 % |
| Limit deviations of thickness, mm | T5 |
| Thickness, (with increments of 10 mm), mm | 50-180 |
| Deviation from squareness, mm/m | < 5 |
| Deviation from flatness, mm | < 6 |
| Compressive stress at 10% deformation, kPa | CS(10)30 |
| Tensile strength perpendicular to faces, kPa | TR15 |
| Point Load, N | PL(5)200 |
| Dimensional stability, %:<br>- at specified temperature<br>- under specified temperature (23°C) and humidity conditions (90%R.H.) | <br>DS(70,-) less than 1<br>DS(23,90) less than 1 |
| Reaction to fire, euroclass | A1 |
| Water Absorption during Short/ Longterm Immersion kg/m² | WS less than 1<br>WL(P) less than 3 |
| Water vapour transmission, MU | MU1 |
| Dangerous substances | Does not include dangerous substances |

* Harmonized technical specification - EN 13162:2012 + A1:2015

# THERMOWOOL FAS EFFECT 135

## HEAT-INSULATING MINERAL WOOL BOARDS

**Production in compliance with the standard EN 13162.**

**MW-EN 13162-T5- DS (70,-)-DS(23,90)- CS(10)40-TR15-PL(5)350 -WS-WL(P)-MU1- RtF: A1**


Non-flammable stone wool slabs made of basaltic and gabbroic rocks

### Product Description

THERMOWOOL FAS EFFECT 135 is non-flammable, hydrophobizated heat- and sound-insulating slabs made of mineral wool based on the basalt group rocks.

### Scope of application:

THERMOWOOL FAS EFFECT 135 slabs are intended for use in civil and industrial construction as thermal and sound insulation in systems of external wall insulation with a protective and decorative layer of fine plaster.

### Storage:

Slabs should be stored packed and stacked on pallets divided by types and sizes. During the entire storage period, the material must be protected from atmospheric precipitation. The height of the stack of slabs should not exceed 3 m upon storage.

### Packaging Details:

Polyethylene shrink wrap is used for packaging. The method of wrapping and fixing a packaging material must ensure the reliable and strong packaging of slabs, their protection during loading and unloading operations, transportation and storage.

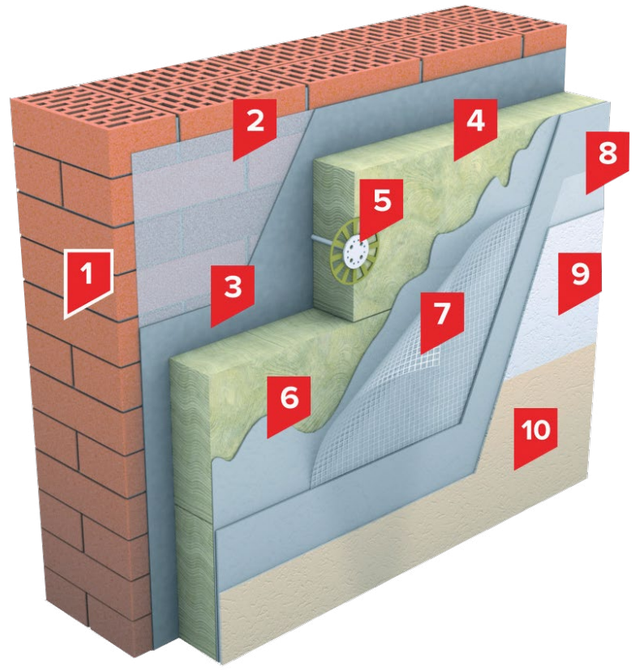
### Technical Characteristics*

| ESSENTIAL CHARACTERISTICS | PERFORMANCE |
|---|---|
| Declared thermal conductivity at 10 °C, $\lambda_D$, W/m*K | 0,038 |
| Limit deviations length/width, mm | ±2/±1,5 % |
| Limit deviations of thickness, mm | T5 |
| Thickness, (with increments of 10 mm), mm | 50-150 |
| Deviation from squareness, mm/m | < 5 |
| Deviation from flatness, mm | < 6 |
| Compressive stress at 10% deformation, kPa | CS(10)40 |
| Tensile strength perpendicular to faces, kPa | TR15 |
| Point Load, N | PL(5)350 |
| Dimensional stability, %:<br>- at specified temperature<br>- under specified temperature (23°C) and humidity conditions (90%R.H.) | <br>DS(70,-) less than 1<br>DS(23,90) less than 1 |
| Reaction to fire, euroclass | A1 |
| Water Absorption during Short/<br>Longterm Immersion kg/m² | WS less than 1<br>WL(P) less than 3 |
| Water vapour transmission, MU | MU1 |
| Dangerous substances | Does not include dangerous substances |

* Harmonized technical specification - EN 13162:2012 + A1:2015



# OUR SOLUTIONS




### Materials for solution

1. Outer wall
2. Deep penetration primer
3. Adhesive for thermal insulation boards
4. Mineral wool boards THERMOWOOL FAS
5. Plate facade dowel
6. Basic reinforcing layer
7. Alkali-resistant fibreglass mesh
8. Quartz primer
9. Decorative plaster
10. Facade paint

# THERMOWOOL ROOF N OPTIMA 110

## HEAT-INSULATING MINERAL WOOL BOARDS

**Production in compliance with the standard EN 13162.**

**MW-EN 13162-T5- DS (70-)-DS(23,90)- CS(10)30-TR7,5-PL(5)350 -WS-WL(P)-MU1- RtF: A1**


Non-flammable stone wool slabs made of basaltic and gabbroic rocks

### Product Description

THERMOWOOL ROOF N OPTIMA 110 is non-flammable, hydrophobizated heat- and sound-insulating slabs made of mineral wool based on the basalt group rocks.

### Scope of application:

THERMOWOOL ROOF N OPTIMA 110 slabs are intended for use in civil and industrial construction as a heat-insulating layer, in new construction and reconstruction of buildings and structures for different purposes.
It is used as the single-layer thermal insulation or the top layer in two- or three-layer insulation with the arrangement of a "wet" or "dry" screed on the insulation surface; and also, as the bottom layer for two- or three-layer thermal insulation of roofs.

### Storage:

Slabs should be stored packed and stacked on pallets divided by types and sizes. During the entire storage period, the material must be protected from atmospheric precipitation. The height of the stack of slabs should not exceed 3 m upon storage.

### Packaging Details:

Polyethylene shrink wrap is used for packaging. The method of wrapping and fixing a packaging material must ensure the reliable and strong packaging of slabs, their protection during loading and unloading operations, transportation and storage.

## Technical Characteristics*

| ESSENTIAL CHARACTERISTICS | PERFORMANCE |
|---|---|
| Declared thermal conductivity at 10 °C, $\lambda_D$, W/m*K | 0,036 |
| Limit deviations length/width, mm | ±2/±1,5 % |
| Limit deviations of thickness, mm | T5 |
| Thickness, (with increments of 10 mm), mm | 50-200 |
| Deviation from squareness, mm/m | < 5 |
| Deviation from flatness, mm | < 6 |
| Compressive stress at 10% deformation, kPa | CS(10)30 |
| Tensile strength perpendicular to faces, kPa | TR7,5 |
| Point Load, N | PL(5)350 |
| Dimensional stability, %:<br>- at specified temperature<br>- under specified temperature (23°C) and humidity conditions (90%R.H.) | <br>DS(70,-) less than 1<br>DS(23,90) less than 1 |
| Reaction to fire, euroclass | A1 |
| Water Absorption during Short/ Longterm Immersion kg/m² | WS less than 1<br>WL(P) less than 3 |
| Water vapour transmission, MU | MU1 |
| Dangerous substances | Does not include dangerous substances |

* Harmonized technical specification - EN 13162:2012 + A1:2015



# THERMOWOOL ROOF N PROF 120

## HEAT-INSULATING MINERAL WOOL BOARDS

**Production in compliance with the standard EN 13162.**

**MW-EN 13162-T5- DS (70,-)-DS(23,90)- CS(10)40-TR7,5-PL(5)350 -WS-WL(P)-MU1- RtF: A1**


Non-flammable stone wool slabs made of basaltic and gabbroic rocks

### Product Description

THERMOWOOL ROOF N PROF 120 is non-flammable, hydrophobizated heat- and sound-insulating slabs made of mineral wool based on the basalt group rocks.

### Scope of application:

THERMOWOOL ROOF N PROF 120 slabs are intended for use in civil and industrial construction as a heat-insulating layer, in new construction and reconstruction of buildings and structures for different purposes.
It is used as the single-layer thermal insulation or the top layer in two- or three-layer insulation with the arrangement of a "wet" or "dry" screed on the insulation surface; and also, as the bottom layer for two- or three-layer thermal insulation of roofs.

### Storage:

Slabs should be stored packed and stacked on pallets divided by types and sizes. During the entire storage period, the material must be protected from atmospheric precipitation. The height of the stack of slabs should not exceed 3 m upon storage.

### Packaging Details:

Polyethylene shrink wrap is used for packaging. The method of wrapping and fixing a packaging material must ensure the reliable and strong packaging of slabs, their protection during loading and unloading operations, transportation and storage.

## Technical Characteristics*

| ESSENTIAL CHARACTERISTICS | PERFORMANCE |
|---|---|
| Declared thermal conductivity at 10 °C, $\lambda_D$, W/m*K | 0,036 |
| Limit deviations length/width, mm | ±2/±1,5 % |
| Limit deviations of thickness, mm | T5 |
| Thickness, (with increments of 10 mm), mm | 50-140 |
| Deviation from squareness, mm/m | < 5 |
| Deviation from flatness, mm | < 6 |
| Compressive stress at 10% deformation, kPa | CS(10)40 |
| Tensile strength perpendicular to faces, kPa | TR7,5 |
| Point Load, N | PL(5)350 |
| Dimensional stability, %:<br>- at specified temperature<br>- under specified temperature (23°C) and humidity conditions (90%R.H.) | <br>DS(70,-) less than 1<br>DS(23,90) less than 1 |
| Reaction to fire, euroclass | A1 |
| Water Absorption during Short/ Longterm Immersion kg/m² | WS less than 1<br>WL(P) less than 3 |
| Water vapour transmission, MU | MU1 |
| Dangerous substances | Does not include dangerous substances |

* Harmonized technical specification - EN 13162:2012 + A1:2015

# THERMOWOOL ROOF PROF 160

## HEAT-INSULATING MINERAL WOOL BOARDS

**Production in compliance with the standard EN 13162.**

**MW-EN 13162-T5- DS (70,-)-DS(23,90)-CS(10)50-PL(5)600 -WS-WL(P)-MU1 RtF: A1**


Non-flammable stone wool slabs made of basaltic and gabbroic rocks

### Product Description

THERMOWOOL ROOF PROF 160 is non-flammable, hydrophobizated heat- and sound-insulating slabs made of mineral wool based on the basalt group rocks.

### Scope of application:

THERMOWOOL ROOF PROF 160 slabs are intended for use in civil and industrial construction as a heat-insulating layer for new buildings and repairing old roofs; can be used as an outer layer of heat insulation in two- or three-layer structures.

### Storage:

Slabs should be stored packed and stacked on pallets divided by types and sizes. During the entire storage period, the material must be protected from atmospheric precipitation. The height of the stack of slabs should not exceed 3 m upon storage.

### Packaging Details:

Polyethylene shrink wrap is used for packaging. The method of wrapping and fixing a packaging material must ensure the reliable and strong packaging of slabs, their protection during loading and unloading operations, transportation and storage.

### Technical Characteristics*

| ESSENTIAL CHARACTERISTICS | PERFORMANCE |
|---|---|
| Declared thermal conductivity at 10 °C, $\lambda_D$, W/m*K | 0,039 |
| Limit deviations length/width, mm | ±2/±1,5 % |
| Limit deviations of thickness, mm | T5 |
| Thickness, (with increments of 10 mm), mm | 40-130 |
| Deviation from squareness, mm/m | < 5 |
| Deviation from flatness, mm | < 6 |
| Compressive stress at 10% deformation, kPa | CS(10)50 |
| Point Load, N | PL(5)600 |
| Dimensional stability, %:<br>- at specified temperature<br>- under specified temperature (23°C) and humidity conditions (90%R.H.) | <br>DS(70,-) less than 1<br>DS(23,90) less than 1 |
| Reaction to fire, euroclass | A1 |
| Water Absorption during Short/<br>Longterm Immersion kg/m$^2$ | WS less than 1<br>WL(P) less than 3 |
| Water vapour transmission, MU | MU1 |
| Dangerous substances | Does not include dangerous substances |

* Harmonized technical specification - EN 13162:2012 + A1:2015



# THERMOWOOL ROOF V EXTRA 170

## HEAT-INSULATING MINERAL WOOL BOARDS

**Production in compliance with the standard EN 13162.**

**MW-EN 13162-T5- DS (70,-)-DS(23,90)- CS(10)50-TR15-PL(5)650 -WS-WL(P)-MU1- RtF: A1**


Non-flammable stone wool slabs made of basaltic and gabbroic rocks

### Product Description

THERMOWOOL ROOF V EXTRA 170 is non-flammable, hydrophobizated heat- and sound-insulating slabs made of mineral wool based on the basalt group rocks.

### Scope of application:

THERMOWOOL ROOF V EXTRA 170 slabs are intended for use in civil and industrial construction as a heat-insulating layer in new construction and reconstruction of buildings and structures for different purposes.
It is used as an outer layer in two- or three-layer roofing structures, an outer layer for the repair of old roofs, and also, as a bottom layer in multi-layer roofing structures, with high loads on the steel sheet covering.

### Storage:

Slabs should be stored packed and stacked on pallets divided by types and sizes. During the entire storage period, the material must be protected from atmospheric precipitation. The height of the stack of slabs should not exceed 3 m upon storage.

### Packaging Details:

Polyethylene shrink wrap is used for packaging. The method of wrapping and fixing a packaging material must ensure the reliable and strong packaging of slabs, their protection during loading and unloading operations, transportation and storage.

### Technical Characteristics*

| ESSENTIAL CHARACTERISTICS | PERFORMANCE |
|---|---|
| Declared thermal conductivity at 10 °C, $\lambda_D$, W/m*K | 0,038 |
| Limit deviations length/width, mm | ±2/±1,5 % |
| Limit deviations of thickness, mm | T5 |
| Thickness, (with increments of 10 mm), mm | 40-110 |
| Deviation from squareness, mm/m | < 5 |
| Deviation from flatness, mm | < 6 |
| Compressive stress at 10% deformation, kPa | CS(10)50 |
| Tensile strength perpendicular to faces, kPa | TR15 |
| Point Load, N | PL(5)650 |
| Dimensional stability, %:<br>- at specified temperature<br>- under specified temperature (23°C) and humidity conditions (90%R.H.) | <br>DS(70,-) less than 1<br>DS(23,90) less than 1 |
| Reaction to fire, euroclass | A1 |
| Water Absorption during Short/<br>Longterm Immersion kg/m$^2$ | WS less than 1<br>WL(P) less than 3 |
| Water vapour transmission, MU | MU1 |
| Dangerous substances | Does not include dangerous substances |

* Harmonized technical specification - EN 13162:2012 + A1:2015

# THERMOWOOL ROOF V OPTIMA 180

## HEAT-INSULATING MINERAL WOOL BOARDS

**Production in compliance with the standard EN 13162.**

**MW-EN 13162-T5- DS (70,-)-DS(23,90)- CS(10)60-TR15-PL(5)700 -WS-WL(P)-MU1- RtF: A1**


Non-flammable stone wool slabs made of basaltic and gabbroic rocks

### Product Description

THERMOWOOL ROOF V OPTIMA 180 is non-flammable, hydrophobizated heat- and sound-insulating slabs made of mineral wool based on the basalt group rocks.

### Scope of application:

THERMOWOOL ROOF V OPTIMA 180 slabs are intended for use in civil and industrial construction as a heat-insulating layer in new construction and reconstruction of buildings and structures for different purposes.
It is used as an outer layer in two- or three-layer roofing structures, an outer layer for the repair of old roofs, and also, as a bottom layer in multi-layer roofing structures, with high loads on the steel sheet covering.

### Storage:

Slabs should be stored packed and stacked on pallets divided by types and sizes. During the entire storage period, the material must be protected from atmospheric precipitation. The height of the stack of slabs should not exceed 3 m upon storage.

### Packaging Details:

Polyethylene shrink wrap is used for packaging. The method of wrapping and fixing a packaging material must ensure the reliable and strong packaging of slabs, their protection during loading and unloading operations, transportation and storage.

### Technical Characteristics*

| ESSENTIAL CHARACTERISTICS | PERFORMANCE |
|---|---|
| Declared thermal conductivity at 10 °C, $\lambda_D$, W/m*K | 0,040 |
| Limit deviations length/width, mm | ±2/±1,5 % |
| Limit deviations of thickness, mm | T5 |
| Thickness, (with increments of 10 mm), mm | 30-110 |
| Deviation from squareness, mm/m | < 5 |
| Deviation from flatness, mm | < 6 |
| Compressive stress at 10% deformation, kPa | CS(10)60 |
| Tensile strength perpendicular to faces, kPa | TR15 |
| Point Load, N | PL(5)700 |
| Dimensional stability, %:<br>- at specified temperature<br>- under specified temperature (23°C) and humidity conditions (90%R.H.) | <br>DS(70,-) less than 1<br>DS(23,90) less than 1 |
| Reaction to fire, euroclass | A1 |
| Water Absorption during Short/<br>Longterm Immersion kg/m² | WS less than 1<br>WL(P) less than 3 |
| Water vapour transmission, MU | MU1 |
| Dangerous substances | Does not include dangerous substances |

* Harmonized technical specification - EN 13162:2012 + A1:2015



# THERMOWOOL ROOF V PROF 190

## HEAT-INSULATING MINERAL WOOL BOARDS

**Production in compliance with the standard EN 13162.**

**MW-EN 13162-T3- DS (70,-)-DS(23,90)- CS(10)70-PL(5)700 -WS-WL(P)-MU1- RtF: A1**


Non-flammable stone wool slabs made of basaltic and gabbroic rocks

### Product Description

THERMOWOOL ROOF V PROF 190 is non-flammable, hydrophobizated heat- and sound-insulating slabs made of mineral wool based on the basalt group rocks.

### Scope of application:

THERMOWOOL ROOF V PROF 190 slabs are intended for use in civil and industrial construction as a heat-insulating layer in new construction and reconstruction of buildings and structures for different purposes.
It is used as an outer layer in two- or three-layer roofing structures, an outer layer for the repair of old roofs, and also, as a bottom layer in multi-layer roofing structures, with high loads on the steel sheet covering.

### Storage:

Slabs should be stored packed and stacked on pallets divided by types and sizes. During the entire storage period, the material must be protected from atmospheric precipitation. The height of the stack of slabs should not exceed 3 m upon storage.

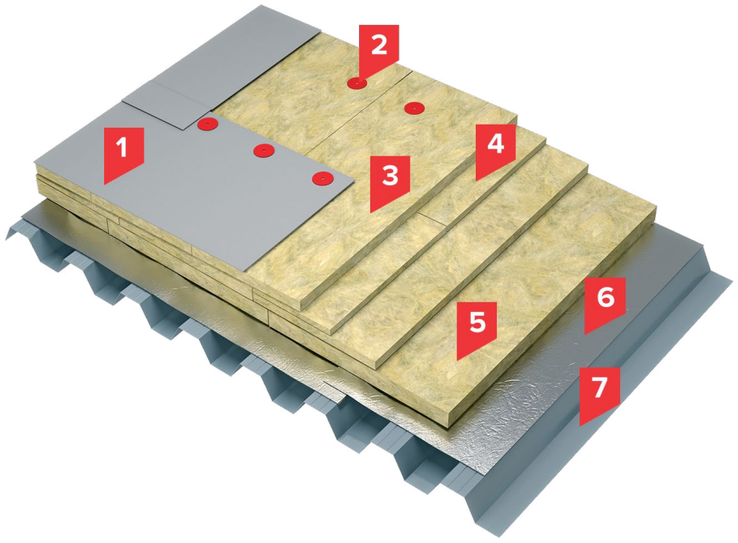
### Packaging Details:

Polyethylene shrink wrap is used for packaging. The method of wrapping and fixing a packaging material must ensure the reliable and strong packaging of slabs, their protection during loading and unloading operations, transportation and storage.

### Technical Characteristics*

| ESSENTIAL CHARACTERISTICS | PERFORMANCE |
|---|---|
| Declared thermal conductivity at 10 °C, $\lambda_D$, W/m*K | 0,040 |
| Limit deviations length/width, mm | ±2/±1,5 % |
| Limit deviations of thickness, mm | T3 |
| Thickness, (with increments of 10 mm), mm | 30-100 |
| Deviation from squareness, mm/m | < 5 |
| Deviation from flatness, mm | < 6 |
| Compressive stress at 10% deformation, kPa | CS(10)70 |
| Point Load, N | PL(5)700 |
| Dimensional stability, %:<br>- at specified temperature<br>- under specified temperature (23°C) and humidity conditions (90%R.H.) | <br>DS(70,-) less than 1<br>DS(23,90) less than 1 |
| Reaction to fire, euroclass | A1 |
| Water Absorption during Short/<br>Longterm Immersion kg/m² | WS less than 1<br>WL(P) less than 3 |
| Water vapour transmission, MU | MU1 |
| Dangerous substances | Does not include dangerous substances |

* Harmonized technical specification - EN 13162:2012 + A1:2015

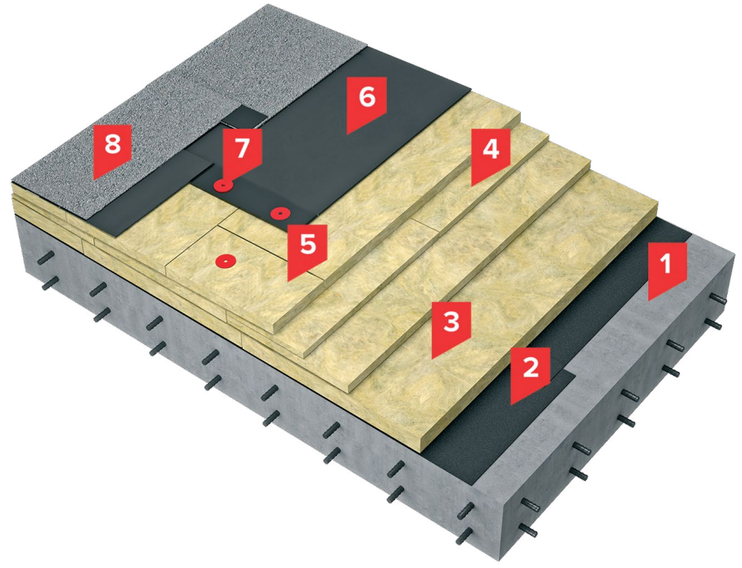



## Materials for solution

1. Galvanised steel profiled sheet
2. Vapour barrier
3. Mineral wool boards THERMOWOOL ROOF N
4. Slope-forming layer of THERMOWOOL mineral wool insulation ROOF SLOPE
5. Mineral wool boards THERMOWOOL ROOF V
6. Telescopic fastening
7. Polymer membrane








## Materials for solution

1. Reinforced concrete base
2. Vapour barrier HYDROBASE ULTRA
3. Mineral wool boards THERMOWOOL ROOF N
4. Slope-forming layer of mineral wool insulation THERMOWOOL ROOF SLOPE
5. Mineral wool boards THERMOWOOL ROOF V
6. Bitumen-polymer material for mechanical fastening HYDROBASE FIX
7. Telescopic fastening
8. Bitumen-polymer fusion material HYDROBASE ELAST

# THERMOWOOL SANDWICH WALL 110

## HEAT-INSULATING MINERAL WOOL BOARDS

**Production in compliance with the standard EN 13162.**

**MW-EN 13162-T5- DS (70,-)-DS(23,90)- CS(10)60*-TR100* -WS-WL(P)-MU1- RtF: A1**

Non-flammable stone wool slabs made of basaltic and gabbroic rocks

### Product Description

THERMOWOOL SANDWICH WALL 110 is non-flammable, hydrophobizated heat- and sound-insulating slabs made of mineral wool based on the basalt group rocks.

### Scope of application:

THERMOWOOL SANDWICH WALL 110 slabs are intended for use as a heat-insulating layer in wall panels.

### Storage:

Slabs should be stored packed and stacked on pallets divided by types and sizes. During the entire storage period, the material must be protected from atmospheric precipitation. The height of the stack of slabs should not exceed 3 m upon storage.

### Packaging Details:

Polyethylene shrink wrap is used for packaging. The method of wrapping and fixing a packaging material must ensure the reliable and strong packaging of slabs, their protection during loading and unloading operations, transportation and storage.

### Technical Characteristics*

| ESSENTIAL CHARACTERISTICS | PERFORMANCE |
|---|---|
| Declared thermal conductivity at 10 °C, $\lambda_D$, W/m*K | 0,043** |
| Limit deviations length/width, mm | ±2/±1,5 % |
| Limit deviations of thickness, mm | T5 |
| Thickness, (with increments of 10 mm), mm | 102-140 |
| Deviation from squareness, mm/m | < 5 |
| Deviation from flatness, mm | < 6 |
| Compressive stress at 10% deformation, kPa | CS(10)60** |
| Tensile strength perpendicular to faces, kPa | TR100** |
| Dimensional stability, %:<br>- at specified temperature<br>- under specified temperature (23°C) and humidity conditions (90%R.H.) | <br>DS(70,-) less than 1<br>DS(23,90) less than 1 |
| Reaction to fire, euroclass | A1 |
| Water Absorption during Short/<br>Longterm Immersion kg/m$^2$ | WS less than 1<br>WL(P) less than 3 |
| Water vapour transmission, MU | MU1 |
| Dangerous substances | Does not include dangerous substances |

* Harmonized technical specification - EN 13162:2012 + A1:2015

** declared in fibres direction



# PHYSICAL AND MECHANICAL CHARACTERISTICS OF MATERIALS

SWEETONDALE does not accept responsibility for the consequences of using (including testing or certifying) its products in applications different from those explicitly described in the relevant sweetondale product datasheets.

# PHYSICAL AND MECHANICAL CHARACTERISTICS OF MATERIALS

| ESSENTIAL CHARACTERISTICS | SOFT INSULATIONS FOR UNLOADED STRUCTURES | | MULTILAYER MASONRY | SOUND INSULATION |
|---|---|---|---|---|
| | THERMOWOOL LIGHT | | THERMOWOOL BLOCK | THERMOWOOL ACOUSTIC 40 |
| | THERMOWOOL LIGHT EXTRA 30 | THERMOWOOL LIGHT OPTIMA 35 | THERMOWOOL BLOCK STANDARD 45 | |
| Declared thermal conductivity at 10 °C, $\lambda_D$, W/m*K | 0,038 | 0,036 | 0,036 | 0,037 |
| Limit deviations length/width, mm | ±2/ ±1,5 % | ±2/ ±1,5 % | ±2/ ±1,5 % | ±2/ ±1,5 % |
| Limit deviations of thickness, mm | T2 | T4 | T4 | T4 |
| Thickness, (with increments of 10 mm), mm | 50-100; 150-200 | 50-100; 130-200 | 50-200 | 50-200 |
| Deviation from squareness, mm/m | < 5 | < 5 | < 5 | < 5 |
| Deviation from fatness, mm | < 6 | < 6 | < 6 | < 6 |
| Compressive stress at 10% deformation, kPa | CS(10)0,5 | CS(10)0,5 | CS(10)0,5 | CS(10)0,5 |
| Tensile strength perpendicular to faces, kPa | - | - | - | - |
| Point Load, N | - | - | - | - |
| Dimensional stability, %:<br>- at specifid temperature<br>- under specifed temperature (23°C) and humidity conditions (90%R.H.) | DS(70,-) less than 1<br>DS(23,90) less than 1 | | | |
| Reaction to fre, euroclass | A1 | A1 | A1 | A1 |
| Water Absorption during Short/ Longterm Immersion kg/m² | WS less than 1<br>WL(P) less than 3 | | | |
| Water vapour transmission, MU | MU1 | MU1 | MU1 | MU1 |
| Dangerous substances | Does not include dangerous substances | | | |
| Weighted sound absorption coefficient | - | - | - | AW (0,7)-40mm<br>AW (1,0) -100-200 mm |

| ESSENTIAL CHARACTERISTICS | FACADES COVERED WITH PLASTER | | | | | | FLAT ROOF | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | THERMOWOOL FAS | | | | | | THERMOWOOL ROOF | | | | | |
| | THERMOWOOL FAS EXTRA 90 | THERMOWOOL FAS STANDARD 100 | THERMOWOOL FAS COTTAGE 105 | THERMOWOOL FAS OPTIMA 120 | THERMOWOOL FAS EFFECT 135 | THERMOWOOL SANDWICH WALL 110 | THERMOWOOL ROOF N OPTIMA 110 | THERMOWOOL ROOF N PROF 120 | THERMOWOOL ROOF PROF 160 | THERMOWOOL ROOF V EXTRA 170 | THERMOWOOL ROOF V OPTIMA 180 | THERMOWOOL ROOF V PROF 190 |
| Declared thermal conductivity at 10 °C, $\lambda_D$, W/m*K | 0,036 | 0,036 | 0,036 | 0,037 | 0,038 | 0,043 | 0,036 | 0,036 | 0,039 | 0,038 | 0,040 | 0,040 |
| Limit deviations length/width, mm | ±2/ ±1,5 % | ±2/ ±1,5 % | ±2/ ±1,5 % | ±2/ ±1,5 % | ±2/ ±1,5 % | ±2/ ±1,5 % | ±2/ ±1,5 % | ±2/ ±1,5 % | ±2/ ±1,5 % | ±2/ ±1,5 % | ±2/ ±1,5 % | ±2/ ±1,5 % |
| Limit deviations of thickness, mm | T5 | T4 | T5 | T5 | T5 | T5 | T5 | T5 | T5 | T5 | T5 | T3 |
| Thickness, (with increments of 10 mm), mm | 50-200 | 50-200 | 50-200 | 50-180 | 50-150 | 102-140 | 50-200 | 50-140 | 40-130 | 40-110 | 30-110 | 30-100 |
| Deviation from squareness, mm/m | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Deviation from fatness, mm | < 6 | < 6 | < 6 | < 6 | < 6 | < 6 | < 6 | < 6 | < 6 | < 6 | < 6 | < 6 |
| Compressive stress at 10% deformation, kPa | CS(10)15 | CS(10)20 | CS(10)30 | CS(10)30 | CS(10)40 | CS(10)60 | CS(10)30 | CS(10)40 | CS(10)50 | CS(10)50 | CS(10)60 | CS(10)70 |
| Tensile strength perpendicular to faces, kPa | TR5 | TR10 | TR10 | TR15 | TR15 | TR100 | TR7,5 | TR7,5 | - | TR15 | TR15 | - |
| Point Load, N | PL(5)50 | PL(5)50 | PL(5)300 | PL(5)200 | PL(5)350 | - | PL(5)350 | PL(5)350 | PL(5)600 | PL(5)650 | PL(5)700 | PL(5)700 |
| Dimensional stability, %:<br>- at specifid temperature<br>- under specifed temperature (23°C) and humidity conditions (90%R.H.) | DS(70,-) less than 1<br>DS(23,90) less than 1 | | | | | | | | | | | |
| Reaction to fre, euroclass | A1 | A1 | A1 | A1 | A1 | A1 | A1 | | | | A1 | A1 |
| Water Absorption during Short/ Longterm Immersion kg/m² | WS less than 1<br>WL(P) less than 3 | | | | | | | | | | | |
| Water vapour transmission, MU | MU1 | MU1 | MU1 | MU1 | MU1 | MU1 | MU1 | | | | MU1 | MU1 |
| Dangerous substances | Does not include dangerous substances | | | | | | | | | | | |
| Weighted sound absorption coefficient | - | - | - | - | - | - | - | | | | - | - |

# Thank You!

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