

#### ■ Warranty

1. If you have any request or complaint on the product, please contact your dealer or A/S service center.
2. The warranty is valid for a full year.  
(Warranty will be invalidated for any defect attributable to your mishandling, wrong storage or incorrect construction)
3. You will have to suggest your invoice receipt when claiming.

#### ■ Handling & Storage cautions

1. It should be stored indoors protected from snow, raindrop and humidity and well ventilated and placed on a palette at least 1m away from wall.
2. Do not use a hook when transporting it and be cautious of any impact or damage on edges.
3. Do not place any heavy article on it. Otherwise, it may damage the product.

#### ■ Construction cautions

1. The proper temperature(15~30℃) and RH(lower than 85%) should be kept for construction.
  2. Eztone waste should be collected in a bag to avoid scattering.
  3. Use a same LOT product in a same space and keep the directional arrow indicated on the back.
  4. Construction should be executed upon the glass work and especially, do not use any heating source in winter season.
  5. Make sure to ventilate the site after construction to avoid discoloration or mold.
  6. Do not use the product for any purpose other than intended; in the case, please contact us.
  7. Observe the followings for cutting or processing the product.
    - A worker should wear goggles, dustproof mask or gloves and any unauthorized person should not be allowed to enter the site.
    - Use a knife for cutting and be cautious of scattering.
    - A site should be well ventilated.
- ※ For any other details, refer to MSDS maintained in the company, branch offices or homepage.



※ MSDS(Material Safety Data Sheet) - it describes harms, first aid guide, handling and others of a chemical for the safe use of a product.

#### ■ Notice

##### ▲ CAUTION

1. Please wear long sleeve clothes and wear goggles, safety helmet, dustproof mask and gloves.
  - Inhaling dust may cause any stimulus on respiratory organs.
2. Contact with dust on the skin or eyes may cause stimulus. Therefore, flush it with soap and water instead of rubbing.
  - Scratching the skin may cause irritation.
3. If any trouble occurs on the body during construction, please consult a doctor.



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Convenient Construction & Gorgeous Space

**BYUCKSAN Eztone**

BYUCKSAN Eztone · BYUCKSAN Eztone · BYUCKSAN Eztone



Directly constructing on lightweight steel support without back structure!  
Mineral wool acoustic ceiling panel providing convenience,  
economics and good design!

• Incombustibility •



• Sound absorbing •



• Convenient construction •



BYUCKSAN Eztone is a mineral wool acoustic ceiling panel that can be directly constructed on lightweight steel support. It may save your construction period as unlike existing construction methods, it can be directly constructed on lightweight steel material by screw or tacker construction method, and it supports harmlessness consisting of mineral wool as its main ingredient, high sound absorbing performance, incombustibility and convenient construction. New construction or remodeling of buildings like schools, offices, shops and medical centers will be better with BYUCKSAN Eztone.

#### HB certified mark?



HB certified mark is allowed for the only construction materials that have passed the quality certification test, which is strictly managed by the group quality certification rules for sustainable construction materials by KACA in republic of KOREA, for the emission strength of organic compounds (TVOC<sup>①</sup>, HCHO<sup>②</sup>, 5VOC<sup>③</sup>).

①TVOC (total volatile organic compounds) - benzene, toluene, xylene ② HCHO (formaldehyde)

③5VOC (indoors air quality substances of new apartment house) - benzene, toluene, ethyl benzene, xylene, styrene



한국표준협회

한국공기청정협회

유호지원 재단

한국환경산업기술원

## Special features of BYUCKSAN Eztone

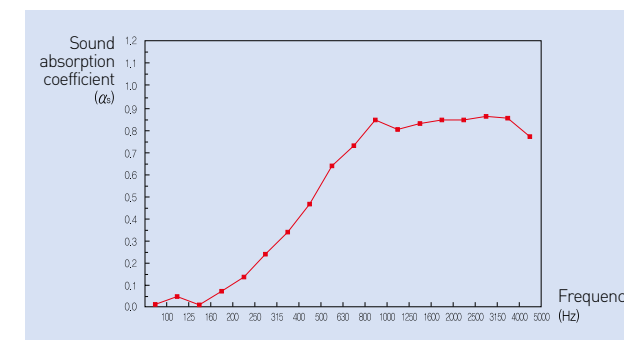


### Sound absorption coefficient of Eztone adopted by reverberation chamber method

The coefficient is calculated according to the formula described in KS F2805 from the measurement method of the coefficient in a reverberation chamber after measuring the reverberation with/without samples between 100Hz and 5000Hz.  
● NRC (Noise Reduction Coefficient): arithmetic mean of the sound absorption coefficient at 250Hz, 500Hz, 1000Hz and 2000Hz by 1/3 octave bands

- Product: Eztone Fissured 12mm
- Tested by: KILK (Fire Insurers Laboratories of Korea)
- Test conditions: temperature = 7±1°C, Humidity=64±5R.H.

Frequency (Hz)	Coefficient (αs)
100	0.02
125	0.05
160	0.02
200	0.07
250	0.14
315	0.24
400	0.34
500	0.48
630	0.64
800	0.73
1000	0.84
1250	0.81
1600	0.83
2000	0.84
2500	0.84
3150	0.86
4000	0.85
5000	0.78
NRC	0.57



- Eztone is an eco-friendly product.
- Sound absorbing data described in the catalog, which show the results of measurements at the specified conditions, may change depending on the surroundings.



\* Economic and convenient by direct finish without back structure.

As it can be directly constructed on the lightweight steel support without gypsum board back structure, it may save time and money as well as help you look into the other side of the ceiling.



\* Energy saving by high insulation

Heat resistant performance, which is a barometer of insulation effect, is higher than gypsum board by 3 times, so it may save energy and contribute pleasurable indoor environment.



\* Quiet from high sound absorption

Eztone is formed of mineral wool with high sound absorption performance, so it may generate quiet and pleasurable environment by restricting outside noise.



\* Lightweight material easy to handle

Eztone has a light material with the density lower than 500kg/m<sup>3</sup>, so it can save the load of a building as well as easy to handle.



\* Sustainability

Eco-friendly Eztone has acquired the Environment Mark Certificate from KEITI and Eco-friendly Construction Material Certificate from KACA.



\* Simple construction from continuous construction

It can be continuously constructed by using turbo driver or tacker gun, easier than the existing construction methods.



\* Prevention of fire spread by incombustibility

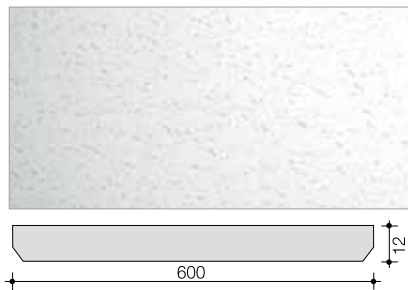
As the incombustible material suitable for KS F ISO 1182 (incombustibility test) and KS F 2271 (gas harmfulness test), it shows high fire-spread prevention effect for an indoor fire.

# BYUCKSAN Eztone

## More diverse BYUCKSAN Eztone

### • Eztone type •

#### Ez-1200 FISSURED



- Dimensions: 12 x 300 x 600mm
- Package: 18 pcs(3.24m<sup>2</sup>)/box

### • Properties of Eztone •

Item	Unit	Standard by KS L 9105
Density	kg/m <sup>3</sup>	500 and lower
Moisture content	%	3.0 and lower
Module of rupture in bending	N	60 and higher
Heat resistance	m <sup>2</sup> · K/W	0.19 and higher
Avg. sound absorption coefficient	NRC	0.41 ~ 0.60
Fire retardant	—	Incombustible
Straightness	—	1/1000 and lower (cutting the side)



## Construction materials and sub-materials

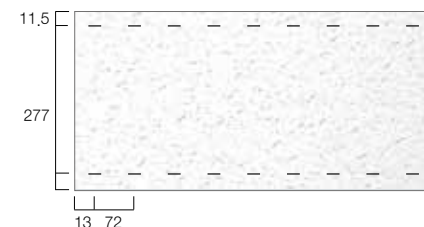
### • Tacker construction method •

#### \* Tacker bar and tacker gun/pin

Tacker bar		Tacker gun	
Spec.		Spec.	
Item	Spec.	Item	Spec.
Manufacturer	Yuchang Co., Ltd	Work air pressure(N/cm <sup>2</sup> )	40~49
dimensions	19(H) x 50(W)	Plate dimensions (mm)	1.2(T)×4(W)×22(L)
Shape	Silt M-bar + galvanized sheet iron		

#### Cautions of using Tacker

- Observe the working air pressure.
- To avoid bad joint, observe the fixed intervals of tacker pins as below.



### • Screw construction method •

#### \* Dry-wall screw gun and screw (Band type)

Screw gun			Wooden screw	
Screw			Spec.	
Item	Spec.		Item	Spec.
Model No.	SF-4000, HILTI	6833, 6836, Makita	Type	Band Type
Power(W)	450	470	Length(mm)	26
Weight(kg)	1.3	1.9	Head dia.(mm)	8.0
Velocity(r.p.m.)	0 ~ 4000	0 ~ 4700 / 0 ~ 6000	Screw helix (mm)	3.5
Max. torque(Nm)	76.5		Surface treatment	Galvanized
			Qty.(pcs)	50
			Screw head	White plating

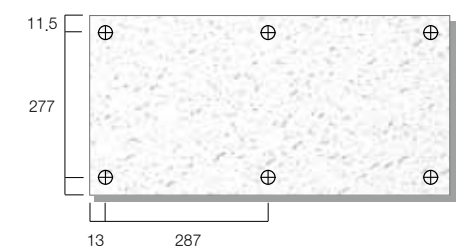
#### \* Turbo driver & screw (Roll type)

Turbo driver		Wooden screw	
Spec.		Spec.	
Item	Spec.	Item	Spec.
Model No.	TD-341, MAX ※ TD-440, the existing model of MAX is also available	Type	Roll type
Dimensions(mm)	345(H) x 116(W) x 270(L)	Length(mm)	26
Weight(kg)	1.8	Head dia.(mm)	8.0
		Screw helix (mm)	3.5
		Surface treatment	Galvanized
Working air pressure(N/cm <sup>2</sup> )	59~78	Qty.(pcs)	108
		Screw head	White plating



#### Cautions of using Screw Gun/Turbo Driver

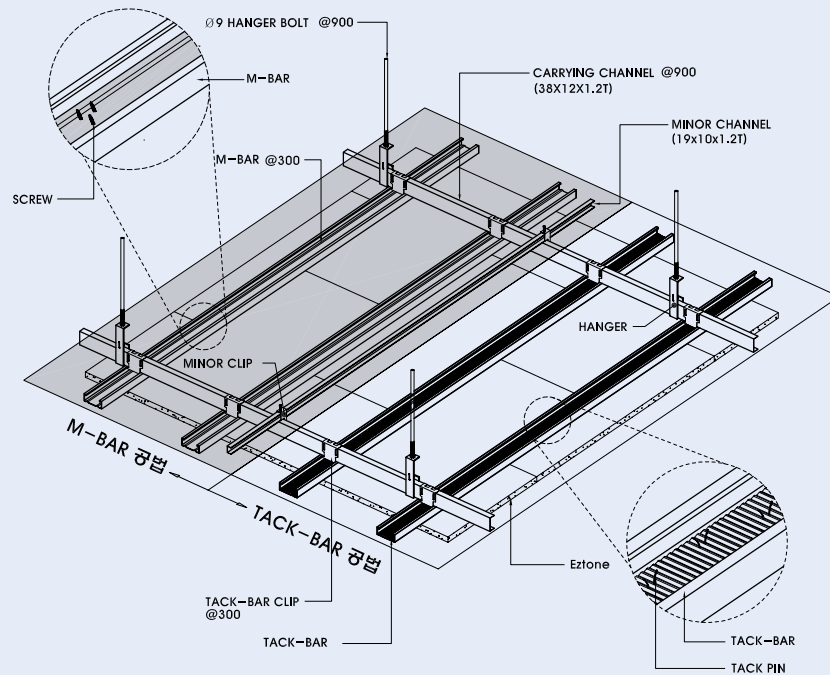
- Make sure to use the only specified screw type.
- Screw should be fixed by one operation(screw gun)
- Observe the working air pressure(turbo driver)
- To avoid bad joint, please keep the described screw fixation intervals as below.





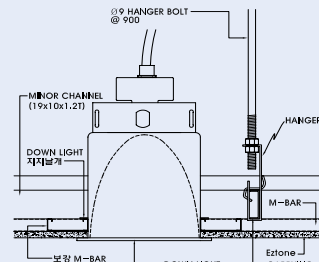
## Working Drawing of BYUCKSAN Eztone

### \* Ceiling structure view of Eztone

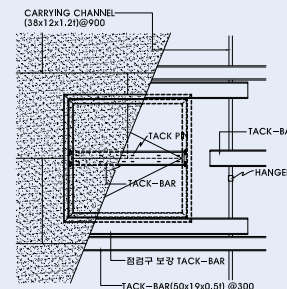


- \* If installing down light after constructing with Eztone, it should be reinforced with auxiliary M-bar to avoid a drooping ceiling due to the load of the light.
- \* The above reinforcement should be also applied for the reinforcement of fire detector, speaker or sprinkler.

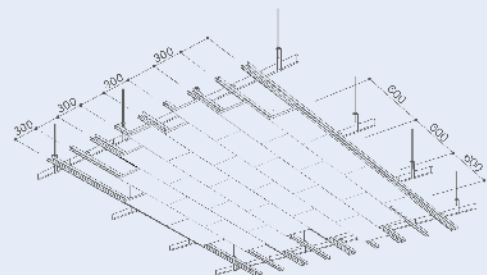
### \* Detail view of down light



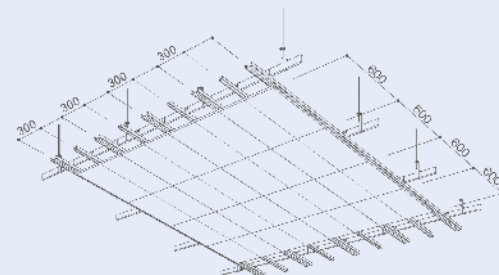
### \* Installation of sight opening (Tack-Bar)



### \* 300 x 600mm pattern (mixed attachment)



### \* 300 x 600mm pattern (arranged attachment)



## Construction methods and handling cautions

### \* Construction method

- 1) Preparation**  
Preventing any mixture of dust or impurities after comprehending ceiling smoothness and concrete dryness.
- 2) Central line setting**  
Setting the central line Eztone considering other constructions after measuring a field in consideration of the dimensions of Eztone.
- 3) Strong anchor installation**  
Installing strong anchors(ø9.5) at intervals of 900-1200mm considering the installation direction of carrying channel
- 4) Molding line level check**  
Checking the spots and performing line marking by water level or laser level after determining the location from a drawing
- 5) Attaching wall molding**  
Attaching molding(1.0T x 15mm x 15mm or 1.0T x 12mm x 12mm) at intervals of 300mm along line marking
- 6) Installing hanger bolt**  
Fixing a hanger bolt(ø9 x 1000mm and larger treated by rust-inhibitor) to strong anchor and connecting the hanger
- 7) Installing curtain box**  
Manufacturing and installing a proper product according to the specifications and purpose.
- 8) Setting lighting fixtures line**  
Setting the lighting fixtures line by discussing with electric and facility managers according to the spec. of lighting fixture
- 9) Installing carrying channel**  
Coupling hanger sets and carrying channel at intervals of 900 ~1200mm and connecting them by carrying joints
- 10) Installing minor channel**  
Installing it by clips at intervals of 2000 ~ 3000mm.
- 11) Installing M-bar/Tacker bar**  
Installing M-bar or tackbar by M-bar clips and carrying channel at intervals of 300mm.
- 12) Installing Eztone**
  - Readjusting the level of ceiling frame and accurately adjusting it by using hanger bolts and nuts.
  - Fixing Eztone by using screws(6per piece:300x600) or tackbar pin(18-20pin/pcs).
  - Replace or repair any damaged Eztone and finish.

### \* Handling cautions

Eztone is a functional product formed from general mineral wool as a plate. To support incombustibility and sound absorbance, it was formed as porosity but it may induce shrinkage, hardening, joint crack or bending. Therefore, the followings should be kept to display the performances of Eztone such as sound absorbance, incombustibility and constructability.

#### 1) Storage of materials

- lightweight steel frames, except for ceiling plate, should be stored at a dry and clean place as they are prevented from flooding and dampness
- Materials should be safely stored in order to avoid any damage on edges and sub-materials. They should be away from a wall about 1m and more and evenly stored on plywood or sheet to avoid dampness.

#### 2) Transportation and handling

- It should be carefully handled when transporting to avoid any impact or defect.
- It should be evenly placed when unloading from a vehicle.
- Do not allow horizontal or vertical loading.
- Handling ceiling plate and construction steels should be oil free without contamination.
- Please read the handling cautions described on the package.

#### 3) Processing

- Cutting, perforation and other processing should be carried out by cutter, which should be executed on a side with pattern.
- In case a cut side is not regular, it should be finished by a file or sand paper.

#### 4) Construction environment

- Constructions such as indoors plaster and mortar should be quickly finished and properly dried.
- Watertight, water construction should be finished with well ventilation and windows should be inserted to the frames.
- If a building is newly constructed and contains some humidity, it should be well ventilated and checked for any moisture on walls.
- Measure the humidity regularly, maintain RH at 85% and lower and avoid construction in case of high humidity.
- Open air regions should not be constructed.

#### 5) Construction

- Wiring/piping construction should be performed in good order to be completed before constructing the ceiling.
- Construction should be precisely completed as possible without any dislocation or joint.
- Other side of ceiling plate has a directional arrow, which should be kept in a construction.
- Construction of ceiling on a same indoor space should be continued as possible while the remaining should be also finished during that day.
- Before deciding work process, please note that after construction, lighting fixtures, air conditioning duct and facility construction may damage the ceiling.
- If not using a tool, it should be interlocked and be cautious of safety accident.
- You should wear goggles, dustproof mask and gloves depending on the construction environment conditions.

#### 6) After construction

- Please avoid any impact or contact at least for 3 days after construction.
- Please stop open air ventilation at night.
- When commissioning air conditioning devices after construction, please avoid sudden load.
- Ventilate the site regularly after construction to avoid any transformation or mold.