



OUR WALLS, YOUR HOME

EVERYTHING YOU NEED TO KNOW ABOUT YOUR NEW DRYWALL

ABOUT USG BORAL



USG Boral is a global leader in the manufacture of drywall, ceilings & flooring and we deliver innovations that empower our tradesmen with creative and safe building solutions for your home.

With USG Boral's decades of experience in supply and expertise in drywall, we are committed to providing you with excellent aesthetics and uncompromised comfort in your home.

This drywall manual is designed to help homeowners understand drywall and its benefits. It will equip you with the confidence in your next home project.

What is drywall?

Drywall (also known as Plasterboard or Gypsum Board) is used to construct interior walls and ceilings in modern building construction.

Compared to the traditional wet construction wall such as bricks or concrete walls, drywall construction can be completed faster without compromising on the benefits of the traditional wet construction materials.

Why drywall?

Drywall for use as internal walls in residential homes comply to high-performance standards to achieve heavy duty, acoustic insulation, impact & moisture resistant and thermal functions.

Drywall systems have a smaller foot print and weigh lesser as compared to conventional brick or concrete walls. This means that designers and contractors can adopt lighter structures, resulting in quicker construction of homes without any compromise in quality. Homeowners can rejoice with more usable space.

PEACE OF MIND



As anxious homeowners, we are sure that you look forward to decorating and furnishing your dream home, yet needing that peace of mind when choosing drywall systems over conventional wet construction walls.

Here are four amazing benefits of USG Boral's drywall system at a glance:

1. **Amazing strength** (page 4)
2. **Exceptional acoustics** (page 8)
3. **Excellent thermal performance** (page 10)
4. **Ease of decoration** (page 12)

DRYWALL BENEFITS: STRENGTH

IT IS STRONGER THAN YOU THINK

Contrary to popular beliefs, drywall systems are not as fragile as perceived due to its slim construction material. Over at USG Boral, our drywall is constructed specifically for use in residential homes and are stress tested for durability and resilience. They have also proven to be able to withstand heavyweight applications such as 60" TV and cabinets.



How are your wall system constructed?

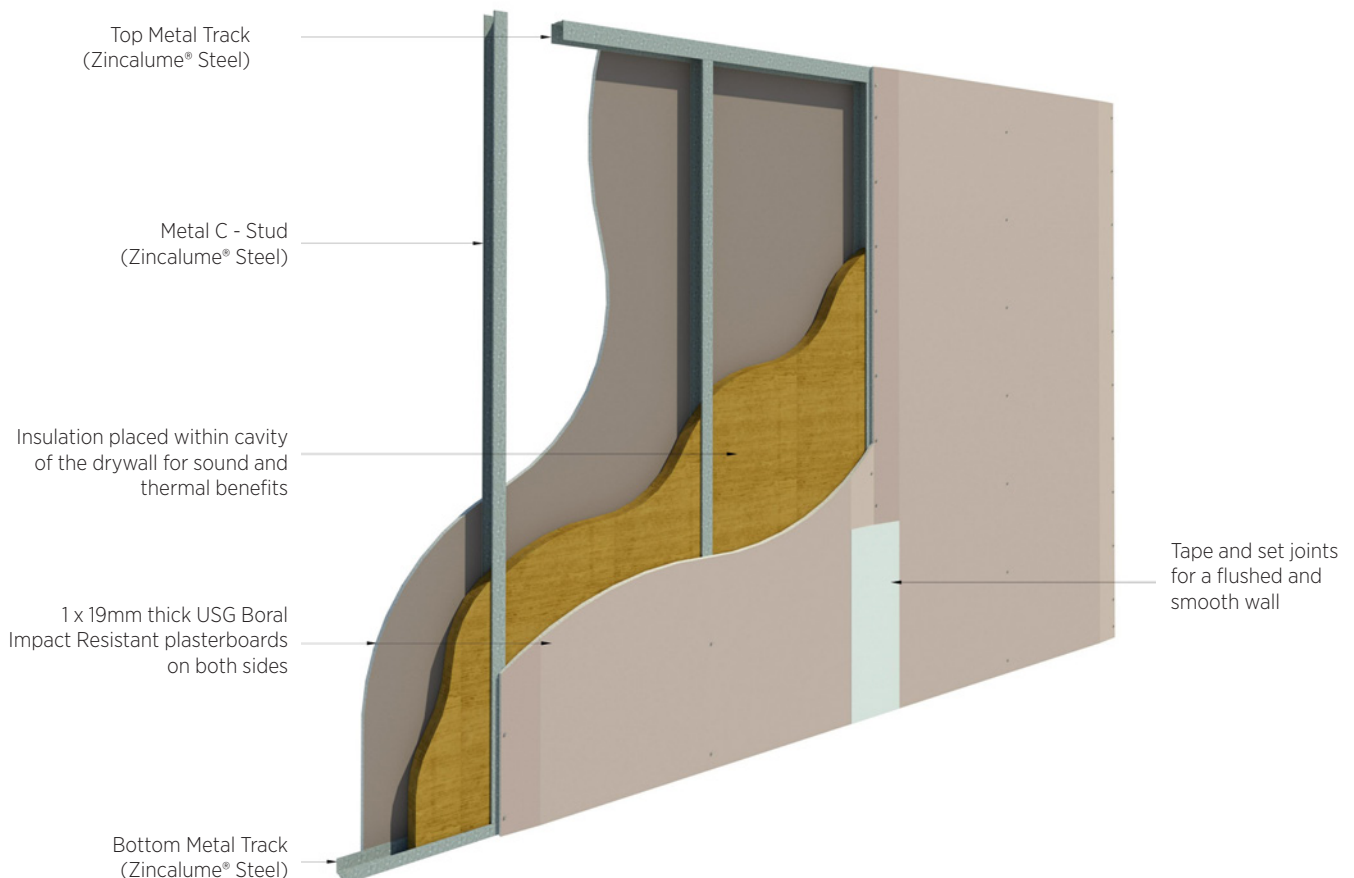
The USG Boral drywall system for use in residential homes is constructed of a metal frame made of **ZINCALUME®** Steel with an AZ150 coating mass (Aluminium-Zinc coating of 150g/m²) that features excellent performance against corrosion, with two severe-duty and impact-resistant plasterboards securely attached onto each side of the frame.

The layer of acoustic insulation installed within the cavity of the drywall ensures good sound insulation needed for a good night's rest. The wall system is then completed by treating the joints between the boards with

USG Boral's range of jointing compound designed specially for plasterboards' joints.

A well-constructed drywall system can provide functional acoustical, impact, fire and moisture resistant performance.

USG Boral's drywall system for homes is tested in accredited labs such as TÜV SÜD PSB (Singapore) to achieve the desired functions meant for a safe and comfortable living environment.



IT IS STRONGER THAN YOU THINK

Strength towards impact and load

USG Boral's impact resistant drywall system is capable of withstanding severe-duty impact, having passed the strength and robustness tests such as Stiffness, Door Slam, Impact, Heavyweight Anchorages test, in accordance to Singapore Standard SS492:2001.

The drywall system is also tested to severe-duty standards in strength with the ability to withhold different loads at each point to suit your variety of installations.

Fixtures and Fittings



Hanging lightweight fixtures using medium duty anchor such as wall pictures, paintings, clocks etc <12kg/point load.



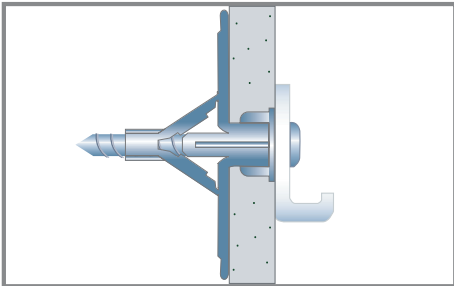
Heavyweight fixtures using heavy duty anchor such as flat screen TV, cabinets, wall shelves etc <25kg/point load.



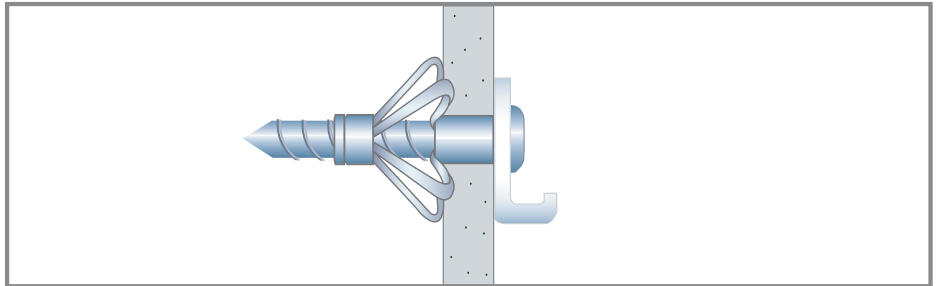
Precaution:

- Heavy fixtures such as large wall cupboards and heavy wall cabinets may need additional support. Please seek professional assistance for installation.
- When using fixings, be careful not to damage any electrical cables or water pipes. In general, electrical wiring runs vertically, while plumbing pipes run horizontally. If you are unsure of the location, please contact your professional electrician or plumber for advice.

Anchors selection (for minimum wall board thickness of 19mm)



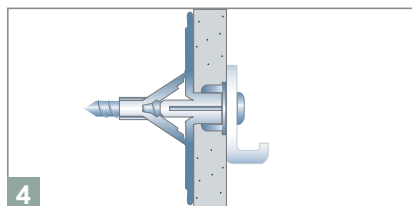
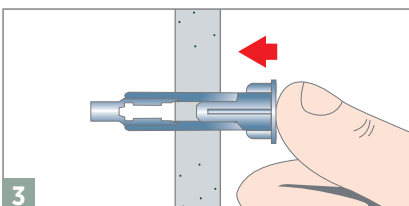
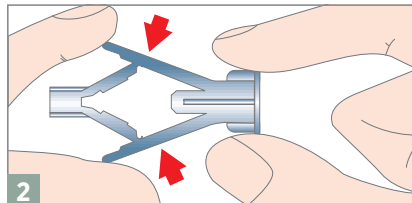
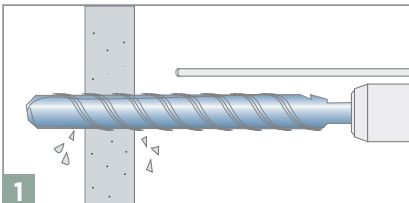
Medium Duty Anchor
(Loading Capability of
<12kg/point load)



Heavy Duty Anchor
(Loading capability of <25kg/point load)

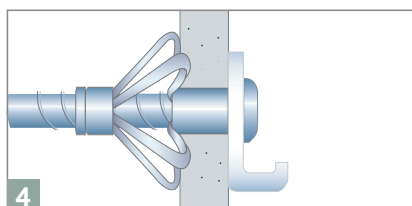
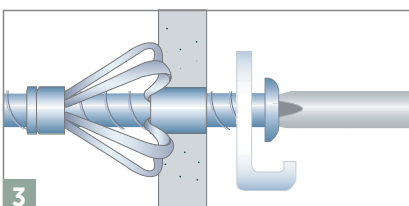
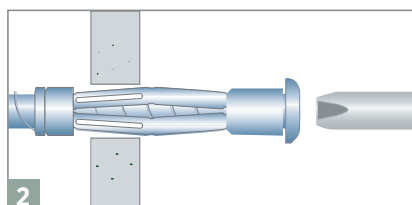
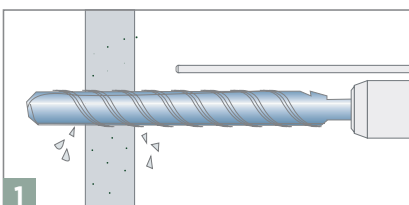
Anchor Installation Procedure

Medium duty anchor



- 1 Drill to specific diameter.
- 2 Compress the 'wings' as shown.
- 3 Push anchor into the base material.
- 4 Position the fixture, insert screw and tighten.

Heavy duty anchor



- 1 Drill to specific diameter.
- 2 Insert the anchor into the base material.
- 3 Tighten the screw to expand the anchor.
- 4 Position the fixture, insert screw and tighten.



Precaution:

- For fixtures above 80kg, it is advisable to follow the anchors' manufacturer's recommendation and the fastening point should be at the stud position.

A GOOD NIGHT'S REST IS A GOOD NEST

Prolonged exposure to noisy environments can create anxiety and stress for homeowners. A balanced acoustical environment often plays an important part in improving productivity, comfort and people's sense of well-being.

Achieving good acoustics at home begins from the understanding of the Sound Transmission Class (or STC) performance between drywall and the traditional brick or concrete walls.



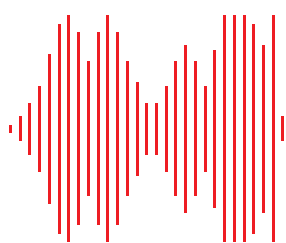


Superior sound insulation

Sound Transmission Class (or STC) reading is used by industry professionals to measure the effectiveness of sound insulation between adjacent rooms. The STC reading reflects the decibel reduction in noise that an interior lining can provide. A higher STC value provides you with greater acoustic performance.

With a variety of drywall systems in the market, the acoustic readings can vary according to the type of systems proposed by different manufacturers. Adding insulation like rockwool or glasswool between the boards can enhance the STC to 45-50. USG Boral's drywall system for homes is able to achieve an STC rating of 45-50*, which surpasses the Building and Construction Authority's (BCA) specified rating of STC 45.

A guide to Sound Transmission Class (STC) Values



- 25** Normal speech can be heard easily

- 30** Loud speech can be heard easily

- 35** Loud speech can be heard but comprehension might be compromised

- 42** Loud speech can be heard as a murmur

- 45** Must strain to hear loud speech

- 48** Loud speech can barely be heard

- 50** Loud speech cannot be heard

Traditional wet constructions such as bricks or concrete walls can only achieve an STC rating of about 40 and are subjected to the type of material used for the construction. Drywall can yield an STC reading as high as 63 by increasing the space and insulation between the boards.

*STC reading tested in accredited lab - TÜV SÜD PSB (Singapore)

DRYWALL BENEFITS: THERMAL CONDUCTIVITY

YOUR NEW HOME HAS NEVER BEEN COOLER



One of the best features of USG Boral's drywall system is its ability to resist heat and maintain lower room temperature. Your new home has never been cooler.



Staying cool with superb Thermal benefits

Unlike traditional walls, USG Boral drywall system minimises heat retention, due to the material's low thermal conductivity and high thermal resistant properties. As such, homeowners can enjoy a comfortable and cooling living environment.

A lower room temperature also translates to lower energy consumption and savings in electricity bills as it reduces the dependency on air conditioning units to further cool the rooms. This is especially crucial for tropical climates like Singapore.



How is Thermal Conductivity measured?

Thermal conductivity, also known as K-value, is used to measure a material's ability to transmit heat. A lower K-value represents a better ability of building material to insulate. Table 1 on the right illustrates the K-values of some commonly used building materials.

Table 1 – Thermal Performance of Common Building Materials

Material	K-value (W/m K)
Plasterboard (Building Material used to construct drywall)	0.167
Brick (dry, covered by plaster or tiles)	0.807
Concrete	1.442

*Source: BCA's Code on Envelope Thermal Performance for Buildings.

DRYWALL BENEFITS: EASE OF DECORATION

EASE OF DECORATION, PIECE OF CAKE

Decorating your new home should be a piece of cake. With USG Boral's drywall system, there is no better time to bring out your creativity in completing your dream home.

Decoration and inspiration

You can apply different types of finishes to a drywall. The following are examples of drywall with different finishes:



USG Boral's drywall system is the perfect solution for paints, wallpapers and floor skirting.

Drywall may be skimmed with a thin layer of finishing plaster after taping and jointing to provide a seamless surface. Drywall should be sealed prior to decoration. The sealing operation reduces surface suction and standardises the moisture absorption of the surface. This also means that wallpaper can be removed without damaging the surface of the board. Drywall can also be easily removed and reinstalled when remodelling homes.

Drywall can also be easily removed and reinstalled for a fuss-free and cost efficient home remodelling process.

Lighting and decorative guide

Lighting is one of the most important elements in the design of a new home for that special finishing touch. It is quite possible to make almost any room look better simply by using a planned or informed approach to lighting. Lighting fixtures can be easily installed on Drywall without the use of hacking. However, do consider the impact of glancing light when deciding on the type of lighting and its positioning.



Painting your new drywall

Adding colours, patterns and textures can be one of the most exciting parts in decorating your home. Consider the type of tones (warm or cool) you prefer to create your desired mood and atmosphere of the room. Indulge yourself and express your personality through the use of colours.

Preparations before you paint:

1. All surfaces should be clean and dust free prior to painting.
2. First coat should be applied by using a good quality primer and should not be sprayed. If spraying method is used, it is recommended that the surface is backrolled and must be thoroughly dried prior to the second coat application.
3. Lightly sand between coats.

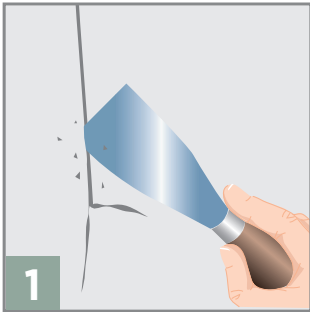


FREQUENTLY ASKED QUESTIONS AND TIPS

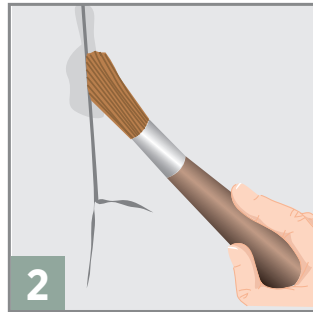
Is drywall strong and easy to maintain?

Drywall has the strength to hold heavyweight items (e.g. TV, shelves etc.); is easy to decorate (i.e. by adding tiles/decorative bricks/wallpaper etc.) and easy to repair and maintain.

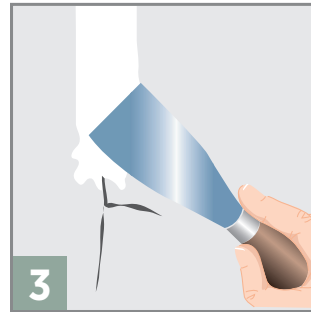
Repairing small dent or crack



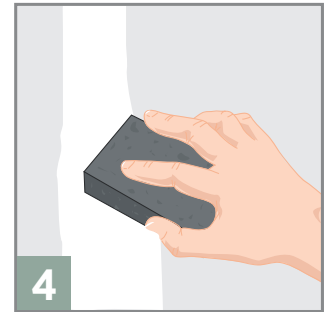
Scrape out any loose materials from the crack, using the tip of your filling knife.



Use a small paint brush and wet the crack with water or PVA adhesive. This prevents the plaster filling from drying too quickly, causing it to crack or fall off.

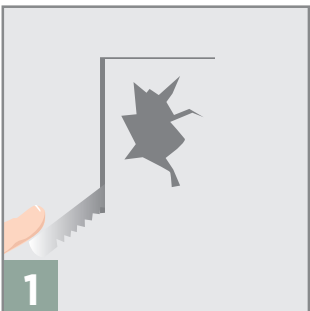


Fill the crack by drawing your loaded filling knife across the crack at an angle.

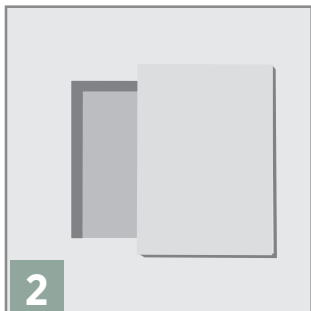


Fill the crack slightly beyond the edges. Leave it to set. Once it hardens, sand it smooth using a medium grade sandpaper.

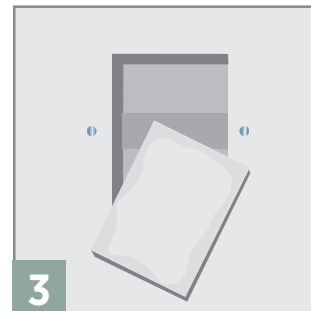
Replacing holes in drywall



Cut out the damaged area using a handsaw or knife to a rectangular hole. Check for cables before cutting.



Cut a piece of drywall block the same size as the hole but narrow enough to be posted through it in both directions.



Fix a batten across the partition cavity and screw fix both sides as shown. Place drywall piece over the hole and screw fix to batten.



Fill around the edges of the drywall patch.



Spread more filler around the edges to secure in place. Once dried, sand smooth.

What are the advantages of drywall?

USG Boral's drywall system can achieve good acoustic performance (able to effectively reduce sound transmission), is high strength; and has strong resistance to impact, fire and moisture.

What can I do on my drywall?

Drywall system enable homeowners to hang items (including heavy installations), and in the process allow drilling of screws and nails and the application of paint and wallpaper.

Please seek professional assistance when installing heavyweight items such as wall cabinets.

Can I mount on any areas of the drywall?

Yes. You do not need a special device to locate any specific mounting point. Please take note to use the correct fixing anchors for various installation types. Do take note that when using fixtures, be careful not to damage electrical cables or water pipes. In general, electrical wiring runs vertically, while plumbing pipes run horizontally. Contact your professional electrician or plumber for advice.

Where can I purchase the fixing anchors?

You may purchase them from most of the hardware stores in Singapore. Please refer to page 7 for the type of drywall anchors.

Is drywall waterproof?

No. Drywall is water-resistant with the ability to withstand water splashing or water spillage. Homeowners may continue to mop floors as per usual practice but should take precaution against water ponding, which may damage the drywall.

Does USG Boral provides installation services for drywall?

USG Boral does not provide installation services to homeowners. Please contact our list of official distributors (see link below) for recommended panel of applicators or installers.

https://www.usgboral.com/en_sg/wheretobuy.html

Where can I buy USG Boral materials?

Please contact our list of official distributors (see link below) for purchase.

https://www.usgboral.com/en_sg/wheretobuy.html



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