

Ortal's Deep Dive Series

Topic: Safety Barriers & Air Intakes

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All Ortal fireplaces come with a safety barrier that sits in front of the glass. Without this barrier, the single glass panel at the front of the fireplace can get over 420°F, and if touched, it can result in serious burns. The protection of a safety barrier is crucial, and understanding the attributes and benefits of safety barriers can help with the specification process.

Safety Barrier Standards

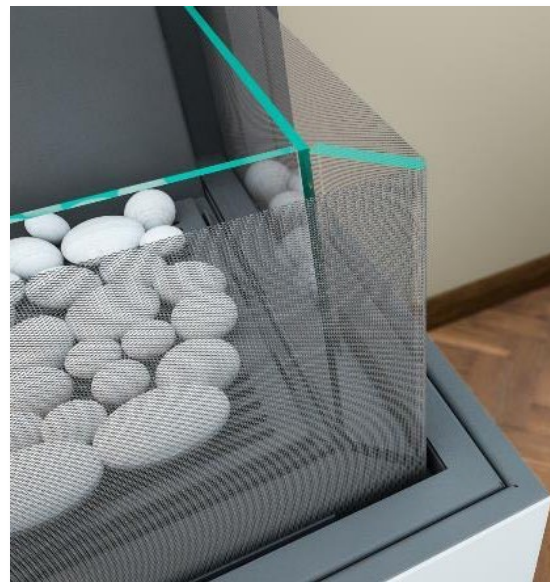
As of January 1, 2015, all glass-fronted gas fireplaces whose glass surface temperature exceeds 172°F are required to have an installed protective barrier to protect young children and other at-risk groups from serious burns. This requirement is listed in several certification standards, including the two that Ortal fireplaces are listed to: ANSI Z21.88/CSA 2.33 for Vented Gas Fireplace Heaters and ANSI Z21.50/CSA 2.22 for Vented Decorative Gas Appliances.

Safety Barrier Options

Ortal offers two safety barrier options that meet listing requirements: Screen or Double Glass.

Screen Barrier

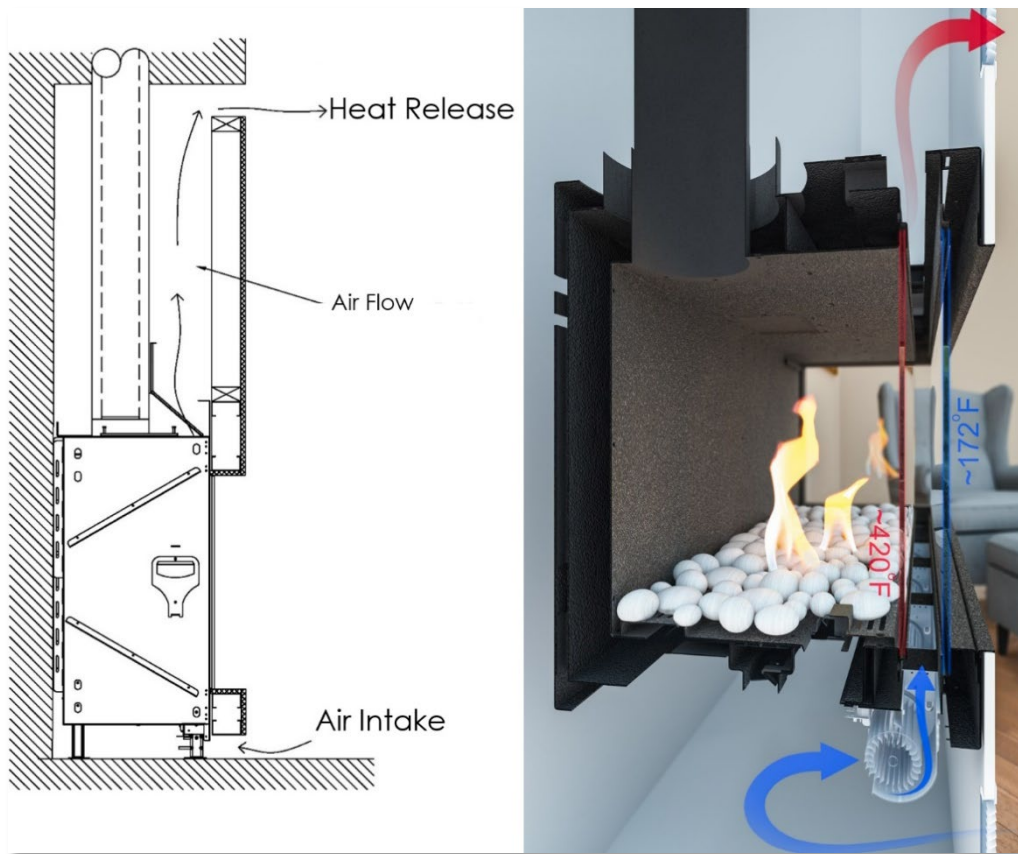
Ortal's micromesh screen material offers a full view of the fireplace interior. For multi-sided fireplaces, our patented frameless screen technology allows for an unobstructed view of the fire – the only one of its kind in the hearth industry.



This patented technology incorporates a glass bracket set at a 45° angle at the glass-to-glass connection points. The screen is then wrapped around the viewing area, supported by the glass brackets, and attaches inside the firebox frame at the sides, allowing the fireplace to maintain a completely frameless design.

Double Glass Barrier

Ortal's double glass barrier incorporates two layers of glass with a space between them. Below the glass, a series of small fans circulate air from the room between the two glass layers, cooling the outer glass to 172°F or less.



The heat then travels up into the fireplace chase through openings on the top of the firebox, and then moves out into the room through the heat release.

In order for the double glass fans to access air from the room, an opening below the fireplace, called an air intake, is required.

Fireplace Model Number	Air Intake Size
25-51 60x80-130	Minimum 124 sq. in. of free air space
60-77 150-200	Minimum 200 sq. in. of free air space
98 250	Minimum 250 sq. in. of free air space

Safety Barrier Comparison

When choosing a safety barrier, there are several aspects to consider:

- **Heat Experience**

Most people are first concerned with the aesthetic differences between the screen and double glass, but because of Ortal's minimal barrier designs, appearance is not the most important factor to consider – the heat experience is. The screen offers more radiant heat from the front face of the fireplace, whereas double glass offers a more ambient heat experience.

Because the double glass barrier involves fans pushing heat up to cool down the outer glass, the heat doesn't have as much of an opportunity to radiate out from the glass. Instead, it's making its way into the room through the heat release on the top of the wall. By the time the heat gets there, it has dissipated some, resulting in less total heat from a double glass fireplace than a screen fireplace. If as much heat as possible is desired, the screen barrier is the better option. If a more ambient, comfortable heating experience is desired, the double glass barrier is the more suitable choice.

- **Wall Design**

As mentioned above, the double glass barrier requires an air intake opening at or below the double glass fans. Because the screen barrier has no fans, an air intake is not necessary. This requirement may influence your design decisions. See "Air Intake Design Examples" below for design inspiration.

- **Fireplace Aesthetic**

The look of the fireplace can be affected by the safety barrier type. For example, multi-sided Stand Alone fireplaces have a framed screen (because the design of the firebox couldn't incorporate a built-in frameless screen). The screen can also alter the viewing area, having a slight darkening effect. It is also great at reducing glare.



Double glass has a classic clean, frameless look for both single and multi-sided fireplace.



Air Intake Designs

There are many ways to design an air intake. As long as the requirements listed above are met, the number of air intake designs are effectively limitless.

Important Note: A protective cover comes on the bottom front of double glass fireplaces to protect the double glass fans during shipping. Once the fireplace is delivered, the cover is no longer required. Depending on your air intake design, the cover may need to be removed prior to allow proper air flow to the double glass fans.

- **Louver/Grille:** A custom louver or grille can be used for an air intake. It is important to keep in mind that the air intake size requirement is **not** the same as the louver/grille dimensions. The clear free space of the louver/grille openings must allow for the minimum square inch requirement of air to flow to the fans.



- **Gap:** A gap is a defined opening in the wall. The dimensions of the gap can exactly meet the minimum square inch size requirement. A gap can be a good fit for a room with a more modern aesthetic.



- **Toe-Kick/Reveal:** A toe-kick/reveal is popular choice for an air intake design. It allows for the cleanest and most unobstructed aesthetic. A space is left below the entire width of the build structure and the room floor, creating a shadow-line effect.



- **Slotted:** This air intake has the benefit of being unseen. The small spaces between the wood slats are left open to the inside of the chase, allowing air to reach the double glass fans.



- **Hidden:** There are ways to strategically position the air intake, so it is not visible from the viewpoint of the fireplace. For example, if your fireplace is on an interior wall, the air intake can be located on a side wall of the chase or in the wall directly behind. An air intake can also come from the floor below; this is only permitted if the air is from a conditioned space.

