



FIRE INSPIRED™

How To Avoid Today's Growing Safety Risks When Selecting Or Specifying Outdoor Gas Fire Features

WHITE PAPER





Consumers are increasingly taking their indoor activities outdoors, furnishing porches and patios with products to facilitate cooking, dining and entertaining. As a result, gas fire features in residential and commercial locations are on the rise. The growth is sparking an expansion of equipment providers, many of whom are offering lower-priced fire features manufactured overseas. The problem? Some of these manufacturers are compromising safety for price.

What's Sparking the Growth of Fire Features

As the outdoor living lifestyle continues to grow, gas fire features in residential locations are on the rise. According to research company Freedonia Group, "the outdoor living market is expanding steadily, with manufacturer-level sales of outdoor furniture, grills, and patio heating products expected to grow 5 percent on average through 2021¹."

While some of the growth can be attributed to rising consumer spending due to an improving economy, the impact of the recession of 2008 also comes into play, encouraging staycations and reminding many homeowners of the value of their own back yards.

Additionally, jumps in new construction and residential improvement activities are predicted to focus on outdoor living spaces like patios and decks, further supporting the sales of outdoor products. In fact, today's homeowners are so in love with the outdoors they're willing to sacrificing indoor space for outdoor functionality. According to the National Association of Home Builders, houses are shrinking in size by nearly 10 percent², but only if more living can be done outside.

Houzz, an online platform that provides home remodeling research, supports this finding. In a recent landscaping study², it found that more than half of respondents were updating their yards to make them more entertaining friendly. Of that number, 69 percent were adding patios and 48 percent were adding fire pits for warmth, ambiance, to create a comfortable gathering place, and to extend the outdoor season.

But the popularity of fire features is not just relegated to homeowners. Restaurants, hotels and bars are also installing them to get as much use out of their outdoor spaces as possible³. It's a move that significantly boosts seating capacity and potential sales. No wonder then, that the American Society of Landscape Architects reports outdoor fire pits are the number one requested design feature today⁴. Yet they come increasing safety concerns.

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Safety Concerns

Outdoor gas fire features can be dangerous, potentially causing serious accidents. At least 5,300 injuries related to fire pits or other outdoor heaters were treated at emergency rooms across the U.S. in 2017⁷. Scott Cohen of the Green Scene, a premiere landscape design and construction firm in California, has this to say about fire feature safety⁵:

“I know how potentially dangerous fire features are. As a construction expert witness, I have investigated some incidents where patrons’ clothing and hair have caught fire, resulting in months of burn treatments, discomfort, and permanent scarring. These serious accidents often lead to expensive lawsuits to settle the hundreds of thousands of dollars in medical bills.

The biggest risk I see is that people often overlook the importance of the height of the flame and weather conditions. Many people tell me they want a “big fire.” They don’t realize that a fire can blow and move out of the fire pit unexpectedly. Most of the time a fire pit is being used for entertaining, and people are relaxing and aren’t mindful of the weather. However, someone’s dress or jacket can easily catch fire if it gets too close to a flame.”

Flame height and weather conditions aren’t the only fire feature safety concerns. Where the fire feature is being manufactured is another.

As more and more residential and commercial establishments embrace outdoor living, the opportunity for increased gas fire feature sales is bringing more and more equipment providers to the market, many of whom are selling products manufactured overseas. To gain a foothold with dealers, distributors and specifiers, some of these overseas manufacturers are cutting safety corners to lower price.

For instance, China’s Alibaba.com, the world’s biggest online commerce company, carries products from 3,282 outdoor gas fire pit suppliers⁶, mainly located in Asia. Of those 3,282 suppliers, 2100 are listed as safe, meeting various standards—1,098 with ISO9001, 798 with Other, and 204 with BSCI certification⁶ – none of which are recognized safety standards for fire features.

So what are residential and commercial owners—not to mention dealers and distributors, hardscape specifiers and design/build landscape contractors—to do to make sure their outdoor gas fire features are safe?

They should leave it to the experts. But which safety expert is best?



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Fire Feature Safety Standards⁸ and the Experts Who Test For Them

There is only one standard that ensures a fire feature has been thoroughly tested by an accredited testing laboratory to meet specified safety and performance requirements. Frequently referred to as a harmonized standard, it is CSA 2.41-2017 (Canada)/ANSI Z21.97-2017 (US), outdoor decorative gas appliances.

The standard was developed by the Canadian Standards Association (CSA) and was overseen by the American National Standards Institute (ANSI). It covers a wide range of topics in the areas of construction, performance and testing, including such key subjects as electrical equipment and wiring, thermostats, gas appliance pressure regulators, and test pressures and burner adjustments.

Any accredited Nationally Recognized Testing Laboratory (NRTL) can be used by a manufacturer to see if their fire features adhere to this harmonized standard. That includes CSA Group, Underwriters Laboratory (UL) and Intertek. However, according to Sean Steimle, CEO, HPC Fire Inspired™, CSA is the most qualified and well known certifying body for fuel powered appliances and is widely trusted by leading US manufacturers like GE, IBM and Apple¹⁰.

About CSA: Canadian Standards Association⁸

Established in 1919, CSA Group is an NRTL that offers certification for electrical, mechanical or 'at risk' products. CSA is recognized around the world. When found on a product, the CSA mark indicates two things:

1. That the product, process and service have been tested according to Canadian or U.S. standards
2. That they comply with the requirements of the standard

Standards Development Organizations (SDOs) create the actual standards that electrical products are tested against to ensure safe operation. In Canada, the CSA Group has been granted SDO status for developing Canadian National Standards. However, the presence of a CSA mark with a "US" subscript indicates CSA has tested and evaluated the product for compliance with appropriate American National Standards. Additionally, CSA Group offers an energy efficiency mark indicating a product meets the energy efficiency requirements outlined by Natural Resources Canada (NRCan), Canadian provincial energy efficiency regulations, California Energy Commission (CEC), and the U.S. Department of Energy (DOE).



Some in the fire feature industry believe UL Listed products are only for the United States and global use, while CSA certified products are only for use in Canada. Depending on certification, both CSA and UL products can be used locally and internationally.

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The Difference Between CSA Certified and “Tested in Compliance”

There are many companies that say their products are “tested in compliance” with the ANSI Z21.97-2014 standard, which means that they have not been certified by the CSA organization and cannot carry the C/CUS marks. This is a problem for the following reasons⁹:

- A fire feature that has not been properly tested and certified may pose a greater risk of malfunctioning, causing harm or death to users and their guests
- Should a non-certified fire feature malfunction, causing damage to the user’s or surrounding property, insurance companies will likely deny the claim, shifting the burden of out-of-pocket costs to the owner of the non-certified fire feature

The C/CUS mark on a fire pit means it has been tested to and meets the approved safety standard, creating dealer, consumer and inspector confidence.

But safe manufacturing practices are one thing: safe installation practices are another.

For Safe Installation, Insist on NFI Certification

The National Fireplace Institute® (NFI) is the professional certification division of the Hearth, Patio & Barbecue Education Foundation (HPBEF), a 501©3 non-profit educational organization for the hearth industry. NFI’s objective is to increase public safety by establishing meaningful credentials for professionals involved in planning and installing residential hearth appliances and venting systems. Individuals who have completed the appropriate training and testing are then NFI Certified¹¹.



According to the NFI website, NFI Certified specialists have been educated, tested and proven knowledgeable in the following areas¹²:

- Combustion
- Heat and heat protection
- Safety guidelines, consequences of action
- Construction fundamentals
- Installation regulations and instructions
- Fuel delivery
- Appliance requirements
- Draft and ventilation principles
- Venting requirements
- Post installation inspection and service

The positives of being NFI Certified extend throughout hearth industry value chain. Building officials prefer working with certified contractors who have demonstrated their commitment to professional excellence; Manufacturers prefer qualified installers because it means their products are more likely to be installed correctly; and consumers feel more confident hiring certified specialists because of their experience and knowledge.

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What To Look For In A Manufacturer

With the increase in fire feature manufacturers, it's become increasingly important to know who is manufacturing the fire pits you're buying, selling, installing and specifying. Fire pit safety starts at the factory, where procedures and processes ensure that the finished fire pit will meet approved safety standards. In addition to offering CSA certified or UL listed fire features, does the manufacturer in question:

- Use CSA certified components
- Appliance assembly exclusively in the U.S.
- Use domestically sourced metals and materials
- Follow lean manufacturing processes for advanced quality control
- Provide dedicated in-house engineering and testing to verify performance and compliance of a product line or design
- Test each product for compliance before shipment
- Have a team of NFI Certified specialists
- Offer a lifetime warranty on any of its stainless steel burners, reflecting a commitment to safety and quality



Conclusion

As consumers increasingly take their indoor activities outdoors, more and more outdoor gas fire features are being installed in residential and commercial locations. Equipment providers are on the rise, many of whom are offering lower-priced products manufactured overseas that don't meet the harmonized safety standard for outdoor decorative gas appliances. To protect users and avoid financial risk, those who buy, specify, and sell outdoor gas fire features should insist on CSA-certified/UL-listed products manufactured, tested and certified to the harmonized standard. What's more, they should look carefully at fire feature manufacturers, selecting those with a proven track record of safety and a commitment to the highest quality standards.

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About HPC Fire Inspired™

HPC Fire Inspired™ (HPC) was founded in 1989 as a division of the manufacturer's rep agency The Maddox Company. It became its own corporation in 2001, building its reputation on its safety pilot valve, millivolt valve, and remote control gas fire pit kits/repair parts for the hearth industry.

In 2003, HPC became an industry leader with the release of its Outdoor Fire Products line in 2003. Today their outdoor line includes custom and off-the-shelf, fully assembled fire and water features for commercial and residential applications that are as visually spectacular as they are scientifically sound.

With a legacy of advanced safety technology, HPC distinguishes itself with its commitment to safety and quality. The company is the world's leading manufacturer of CSA-certified outdoor fire and water features. Their more than 400 CSA-certified products lead the industry in both safety and innovation, and include the following:

- The patented PENTA Burner
 - Round burners, linear burners and H-burners
 - Bowl, flat, trough and rectangular burners
 - Manual spark ignition inserts (FPPK)
 - Match lit inserts (MLFPPK)
 - Electronic ignition (EI)
 - Evolution 360 fire-and-water features
- } Lifetime Warranty

To further reinforce its commitment to safety and quality, HPC recently implemented a Lifetime Warranty on its fire pit burners, covering both residential and commercial installations. The new policy went into effect May 1, 2019.

In addition to its numerous CSA-certified products and components, HPC offers a full team of NFI certified specialists to support dealers/distributors, landscape architects and end users with design tips, installation advice and troubleshooting.

HPC is represented by 1,400 distributors and retailers in North America in industries that include hearth, landscape, pool & spa, outdoor kitchen, patio furniture, outdoor lighting and more.

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1. <https://www.freedoniagroup.com/industry-study/outdoor-furniture-grills-in-the-us-by-product-market-and-region-7th-edition-3596.html>
2. <https://www.grandviewresearch.com/industry-analysis/fire-resistant-glass-market>
3. <https://www.thefirepit.com/firepits-commercial-retail-spaces/>
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6. <https://www.alibaba.com/countrysearch/CN/outdoor-gas-fire-pit.html>
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12. <https://www.nficertified.org/public/why-choose-an-nfi-pro/>



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