



Guide to Compliance of Gas Appliances

Get ready to access the global market

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Where do you want to launch your gas appliance products?

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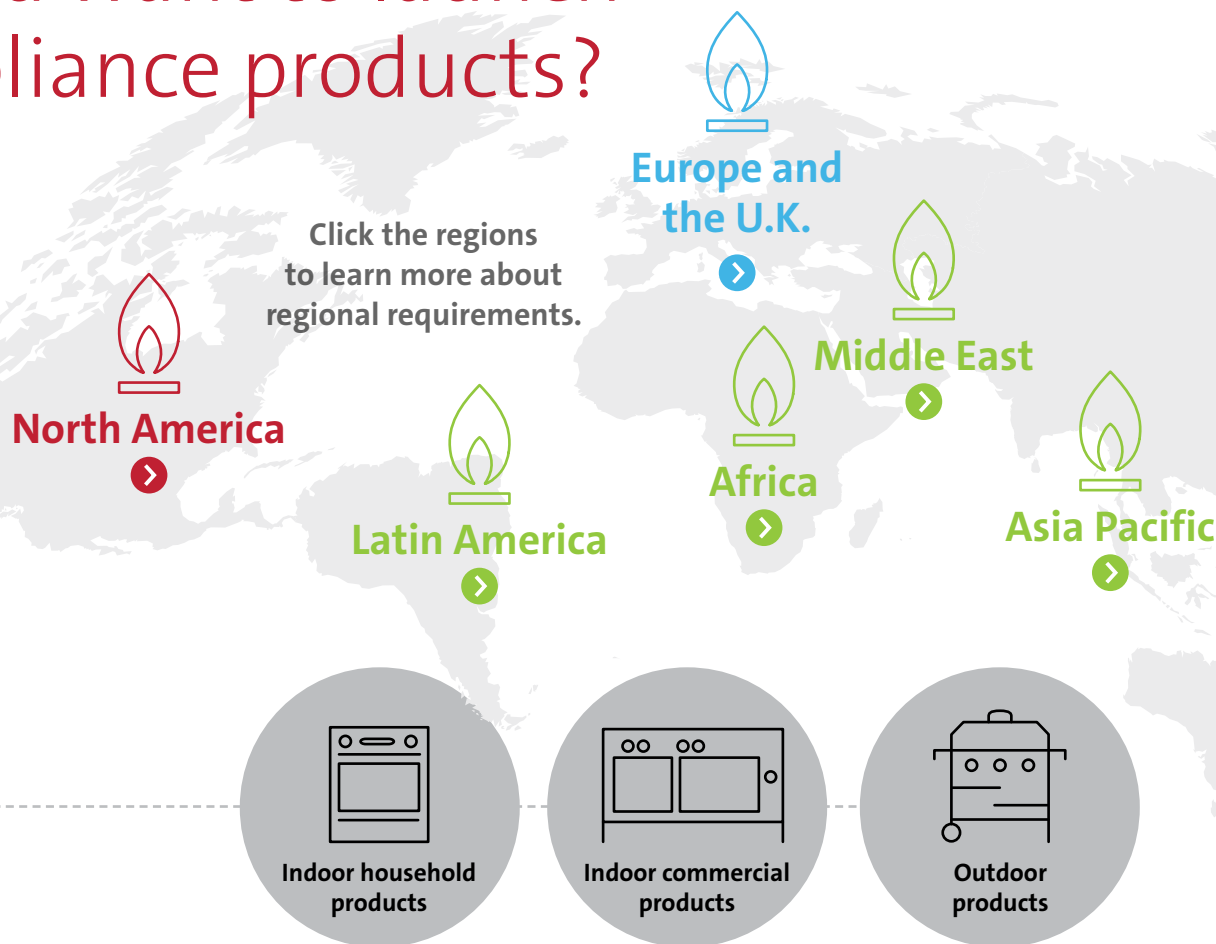


Click the regions
to learn more about
regional requirements.

When launching a new gas cooking appliance, you want to be sure that it is safe and complies with local market requirements. UL, a global safety science leader, can provide certification and testing as well as market entry advisory and training services for your global access needs.

In this way, we can help provide you with the tools necessary to understand compliance and market access requirements.

We can help you streamline your testing and certification processes and procedures and get access to markets in Europe, North America, Asia Pacific, Africa, Middle East and Latin America from one local testing laboratory.



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Access to North America

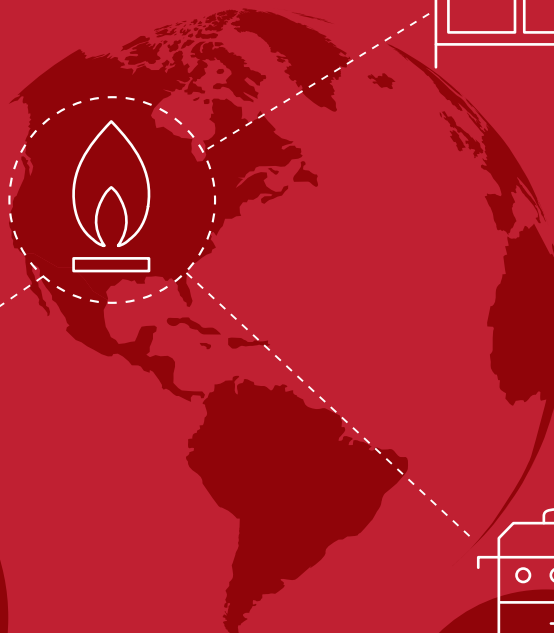
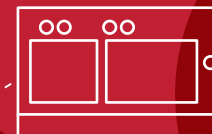
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Indoor and Outdoor – Commercial

Professional cooking and
bakery appliances/ovens

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Indoor – Household

Hot plates, table cookers,
free standing and built-in ovens,
griddles, portable stoves

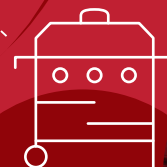
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Outdoor

Barbecues, grills

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learn more. >



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Standard ANSI Z21.1/CSA 1.1

Household
Gas Cooking Appliances



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General information

- Gas used
 - Natural gas (1,040 Btu/ cu. ft. = 40.1 MJ/m³)
 - Propane (2,500 Btu/ cu. ft. = 93.1 MJ/m³)
- For residential/domestic applications
- Limited to indoor applications
- Limited to appliances operating with 120/240 Vac and 20 Amperes maximum



Construction requirement highlights

- Manual gas valves and pilot shut-off devices:
Compliant with ANSI Z21.15/ CSA 9.1 or ANSI Z21.78/ CSA 6.20
- Automatic gas valves:
Compliant with ANSI Z21.21/ CSA 6.5 or ANSI Z21.78/ CSA 6.20
- Gas appliance regulator: ANSI Z21.18/ CSA 6.3 or ANSI Z21.78/ CSA 6.20



Performance requirement highlights

- Carbon monoxide free $\leq 0.08\%$
- Rated input must be within +/-5% and within +/-15%
for each individual burner
- Natural gas minimum inlet gas pressure = 3.5" w.c. (8.7 mbar)
- Propane gas minimum inlet gas pressure = 8.0" w.c. (19.9 mbar)



Indoor and Outdoor – Commercial

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Standard ANSI Z83.11/ CSA 1.8

Commercial
Gas Cooking Appliances



General information

- For commercial applications, both indoor and outdoor
- This standard can be used also for trailers, carts and self-cleaning ovens.



Construction requirement highlights

- NPT connection
- Circular vent and air intake connections must be in inches.
- Automatic gas valves:
ANSI Z21.21/ CSA 6.5
or ANSI Z21.78/ CSA 6.20
- Automatic gas ignition systems:
ANSI Z21.20, CAN/CSA C22.2
No. 60730-2-5-14
- Thermostat shall be compliant with
ANSI Z21.23/ CAN1-6.6, UL 873,
CSA C22.2 No. 24
- Pressure chambers:
ASME Section VIII or subjected
to 5x MAWP (Maximum allowed
working pressure)



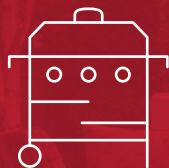
Performance requirement highlights

- CO-air free $\leq 0.08\%$
- Input must be within +5% of
manufacturer's specified input rating
- Thermal efficiency test, minimum
efficiency varies depending on type
of appliance
- Outdoor installations are subject
to wind testing and rain testing:
10 mph (4.47 m/s) steady wind.



Standard
ANSI Z21.58/CSA 1.6
ANSI Z21.89/CSA 1.18

Outdoor
Gas Cooking Appliances



General information

- Limited to outdoor appliances in all cases
- Z21.58 – Barbecues
- Z21.89 – Specialty appliances (tabletop grills)
- Also for natural gas-fired applications



Construction requirement highlights

- **ANSI Z21.58/CSA 1.6:** Additional requirements for self-contained LP gas supply systems
- Flexible hose connections for LP gas: ANSI/UL 569 Pigtails and Flexible Hose Connectors for LP gas, CAN/CGA-8.1 Elastomeric composite hose and hose couplings for conducting propane and natural gas, CSA 8.3 Thermoplastic hose and hose couplings for conducting propane and natural gas
- **ANSI Z21.58:** Six, eight-hour continuous operation cycles
- **ANSI Z21.89:** Four, four-hour continuous operation cycles



Performance requirement highlights

- CO-air free $\leq 0.08\%$
- Rated input must be within +/-5% of manufacturer's specified input rating.
- Soundness of gas circuit: 0.2L/hr
- Broiler performance: Hamburger test
- Wind test: 10 mph (4.47 m/s) steady wind
- Rain test

Access to Europe and the U.K.



CE Marking and Gas Regulation (GAR)

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Outdoor and hotplates

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Indoor – Commercial

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Indoor – Household

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UKCA Marking

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CE Marking, UKCA Marking and GAR



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Other European standards for gas appliances and fittings



Compliance with GAR

- **The regulation covers** appliances burning gaseous fuel (“appliances”) and fittings intended to be incorporated within gas appliances.
- **Compliance to the regulation is mandatory** and products that fall under the scope of the regulation must affix the CE marking. Only if the appliance or fitting complies with the GAR, can it be placed on the European market and put into service.
- **European gas:** The gases used to test the appliances are indicated in the EN 437 standard.
- **Appliances must comply with other European directives** in addition to the GAR Regulation, if applicable:
 - Directive 2014/35/EU.
 - Directive 2014/53/EU.
 - or Directive 2014/30/EU.
 - Regulations (EC) No. 1935/2004.



Certification procedure for GAR

- **Module B:**
 - EU type examination: Manufacturer chooses a laboratory accredited and notified by the EU Commission to perform the required tests.
 - The manufacturer must also choose one of the modules below for the surveillance.
- **Module C:** (C2 for GAR): Conformity to type based on internal production control plus supervised product checks at random intervals.
- **Module D:** Conformity to type based on quality assurance of the production process.
- **Module E:** Conformity to type based on quality assurance of the product.
- **Module F:** Conformity to type based on product verification.
- **Module G:** Conformity based on unit verification.



Access to the U.K. with the UKCA marking

The UKCA marking came into effect on Jan. 1, 2021. However, to allow businesses time to adjust to the new requirements, you will still be able to use the CE marking until Jan. 1, 2023, in most cases.

You only need to use the new UKCA marking before Jan. 1., 2023, if all of the following apply and your product:

- **Is for the market in Great Britain**
- **Is covered by legislation which requires the UKCA marking**
- **Requires mandatory third-party conformity assessment**
- **Had a conformity assessment carried out by a U.K. conformity assessment body**

This does not apply to existing stock, for example if your product was fully manufactured, CE marked and ready to place on the market before Jan. 1, 2021. In these cases, your product can still be sold in Great Britain with a CE marking even if covered by a certificate of conformity issued by a U.K. body before Jan. 1, 2021. These goods will need to be placed on the market before Dec. 31, 2022.



Standard EN 30

Cooking Appliances –
En 30 - Domestic Cooking
Appliances Burning Gas
(Hob and Gas Cooking)



General information

- The appliances covered by this standard are intended to be used by nonexpert users in a domestic dwelling (or household environment).
- Household environments are houses or apartments, shops, offices and other similar working environments, farmhouses, hotels, motels, bed and breakfast.



The standard is divided in six parts

- **EN 30-1-1**
Domestic Cooking Appliances Burning Gas: Safety – General
- **EN 30-2-1 and EN 30-2-2**
Rational Use of Energy
- **EN 30-1-2**
Appliances Having Forced-convection Ovens and/or Grills
- **EN 30-1-4**
Appliances Having One or more Burners with an Automatic Burner Control System
- **EN 30-1-3**
Appliances Having a Glass Ceramic Hotplate
A flame supervision device is mandatory to check the flame condition. If no flame is present, the gas must shut off.

Access to Europe and the U.K. Indoor – Commercial



Standard EN 203

Cooking Appliances - EN 203 –
Gas Heated Catering Equipment
(Professional Gas Cooking
and Fryers)



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EN 203-2-4 Gas Heated Catering Equipment
Part 2-4: Specific Requirements -
Fryers



EN 203-2-6 Gas Heated Catering Equipment
Part 2-6: Specific Requirements -
Hot Water Heaters for Beverage



EN 203-2-7 Gas Heated Catering Equipment
Part 2-7: Specific Requirements -
Salamanders and Rotisseries



EN 203-2-8 Gas Heated Catering Equipment
Part 2-8: Specific Requirements -
Brat Pans and Paella Cookers



EN 203-2-9 Gas Heated Catering Equipment
Part 2-9: Specific Requirements -
Solid Tops, Warming Plates and Griddles



EN 203-2-10 Gas Heated Catering Equipment
Part 2-10: Specific Requirements -
Chargrills



EN 203-2-11 Gas Heated Catering Equipment
Part 2-11: Specific Requirements -
Pasta Cookers



EN 203-1 Gas Heated Catering Equipment
Part 1: General Safety Rules



EN 203-2-1 Gas Heated Catering Equipment
Part 2-1: Specific Requirements -
Open Burners and Wok Burners



EN 203-2-2 Gas Heated Catering Equipment
Part 2-2: Specific Requirements -
Ovens



EN 203-2-3 Gas Heated Catering Equipment
Part 2-3: Specific Requirements -
Boiling Pans

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Outdoor and Hotplates

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Standard EN 484

Independent Hotplates,
including those Incorporating
a Grill for Outdoor Use
(Independent Stoves)



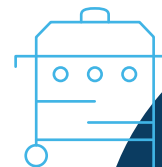
Standard EN 497

Multi-Purpose Boiling
Burners for Outdoor
Use (Burners)



Standard EN 498

Barbecues for Dedicated
Liquefied Petroleum
Gas Appliances –
Barbecues for Outdoor
Use Grills included



Access to other key markets

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Latin America

**Click the countries to learn more
about their individual requirements**



Africa



Eurasia



Middle East



Asia Pacific

The countries listed here are a selection only. UL can support you with market access services for almost any country in the world.

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