“CE Marking” of Gas Appliances
-Exploding the myths

Presented by:
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What I hope to cover today

• Background and history of “CE Marking” in general

• More detailed discussion about current CE Marking requirements for gas appliances.

• What works well – what could be improved?

• Questions?
CE Marking affixed to a product…

Vast majority of people do not know what CE Mark means
Confusion Everywhere? Caveat Emptor?

Vast majority of people do not know what CE Mark means.
CE Marking

Quality Mark?

Meets EN standard?

Independently tested?
Simply a declaration from the manufacturer that the product complies with ALL RELEVANT European Directives.
“New Approach” Directives

Example of a gas water heater:

- **Gas Appliances Directive?**
  - Covers safety of gas appliances
  - Independent testing required
“New Approach” Directives

Example of a gas water heater:

- Gas Appliances Directive
- Low Voltage Directive?
  - Covers safety of electrical equipment
  - Independent testing not required
“New Approach” Directives

Example of a gas water heater:

- Gas Appliances Directive
- Low Voltage Directive
- Electromagnetic Compatibility Directive?
  - Covers EMC emissions and immunity
  - Independent testing not normally required
Example of a gas water heater:

- Gas Appliances Directive
- Low Voltage Directive
- Electromagnetic Compatibility Directive
- **Pressure Equipment Directive?**
  - Covers safety of pressurised equipment
  - Independent testing **might** be required
“New Approach” Directives

Even for relatively simple products, it is not easy to know for sure which EU Directives apply to it:

- Scopes of Directives are often complex
- Directives may have many exclusions
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Have to rely on manufacturers written “Declaration of conformity” to explain what CE Mark means on each product!
Free movement of goods is the cornerstone of an effective single market.

Different “approvals” requirements for products within each of the 15 Member States were preventing the EU market from working properly.

“New Approach” strategy was introduced in 1985
  - Followed by development of “New Approach” Directives
  - Intention to have each Directive cover a single specific risk
New Approach - Principles

- Products legally supplied in one country should be able to move freely through the Community.

- Barriers to trade resulting from “local” variations are permitted, but only if:
  - They are necessary to satisfy health, safety, consumer protection and environmental protection.
  - They serve a legitimate purpose and can be justified.
  - They are applied equally to everybody.

- Examples include UK Plugs & Sockets Regulations and Dutch NOx emissions limits.
New Approach - Principles

- Regulations are limited to “essential requirements”

- European Standards will detail how the essential requirements are interpreted for specific products.

- Use of EN standards remains voluntary – only the essential requirements have force of law.

- Products manufactured in compliance with EN standards will benefit from a “presumption of conformity” with the corresponding essential requirements.
“New Approach” Directives

Examples:

- Gas Appliances Directive
- Low Voltage Directive
- Electromagnetic Compatibility Directive
- Pressure Equipment Directive
- Boiler Efficiency Directive
- Recreational Craft Directive
- Lifts Directive
- Machinery Directive
- etc…
New Approach - Principles

- “Safeguard Clause” - allows Member States to restrict or prohibit placing of CE Marked products onto their market or to withdraw them because of:
  - Health and Safety concerns
  - Inadequate harmonised standards
  - Some other issue of public interest

- Specifies range of conformity assessment “modules” to be used in the Directives as appropriate to the level of risk.
CE Marking – Enforcement

• Generally not detailed by Directives

• Each Member State can choose how to monitor and enforce Directives within their territory

• Some Member States enforce Regulations more vigorously than others:
  • UK – Tends to be “complaint driven” and is enforced by Trading Standards or Health & Safety Executive
  • France – Routine checks on good entering the country
  • Belgium – Extensive audit testing of products placed onto market
Penalties for non-conformity are generally left at the discretion of each Member State.

- Fines
- Imprisonment for serious offences

Bear in mind that CE Marking is a LEGAL process.
In addition to “CE Marking”, there may be other EU Regulations that must also be met:

- Energy Labelling Directives
- Materials in contact with food
- Waste Electrical & Electronic Equipment

These do not require the “CE Mark” to be affixed in order to declare conformity.
Our water heater example...

Reasonable to assume that the “CE Mark” is intended to show product complies with:

- Gas Appliances Directive
- Low Voltage Directive
- Electromagnetic Compatibility Directive

But also needs to comply with “materials in contact with food” Directive. How do we know if this one does or not?
Summary

• “CE Marking” is a legal procedure

• Responsibility of manufacturer or “responsible person”
  • To identify all applicable directives
  • To follow procedures detailed in each directive
  • To comply with the requirements of each directive

• “Due diligence” is the only permitted defence

• Other EU and local regulations may apply and the CE Mark does not imply conformity with these.
The “Gas Appliances Directive”
(90/396/EEC)
GAD - Scope

Applies to appliances burning gas for:

• Cooking
• Space Heating
• Water Heating
• Refrigeration
• Lighting
• Washing

“Gas” means any fuel which is in a gaseous state at 15°C under a pressure of 1 bar.
GAD - Scope

Also applies to:

- Forced draught burners and heating bodies intended to be equipped with such burners

- “Fittings”
  - Safety, controlling or regulating devices
  - Sub-assemblies

which are independently marketed for trade use and designed to be incorporated into gas appliances.
Does not apply to:

• Gas appliances designed for use in industrial processes on industrial premises

• Appliances with a normal operating water temperature that exceeds 105°C
Gas Appliances (and fittings) placed on the market must:

- Be SAFE
- Comply with the essential requirements detailed
- Have been subjected to the assessment procedures detailed in the GAD
- Be CE Marked
GAD – Essential Requirements

GAD includes around 30 “essential requirements”, covering:

• Markings and instructions
• Materials used
• Design and construction
• Unburned gas release
• Ignition and combustion
• Temperatures
• Rational use of energy
• Foodstuffs and water used for sanitary purposes
Essential Requirement 1.1

“Appliances must be so designed and constructed so as to operate safely and present no danger to persons, domestic animals or property when normally used”.

“Normally used” means:

- Correctly installed and serviced
- Used with normal variation in gas quality and pressure
- Used in accordance with its intended purpose or in a way that can be reasonably foreseen
All GAD procedures involve the use of a “Notified Body”

For series-produced equipment, GAD requires a two-stage process:
  • EC Type Examination (laboratory testing), followed by
  • Ongoing Production Surveillance

For one-off (or very low volume) products, there is a single procedure:
  • EC Verification by Single Unit
GAD – Essential Requirements

• Flexible
  • Allows manufacturers to agree “technical solutions” with NB
  • Does not exclude new technologies

• Compliance with EN standards is NOT mandatory
  • Using EN Standards does give “presumption of conformity”

• Installation requirements are NOT covered
  • May not be able to legally install all appliances in all countries!
Summary - GAD

- Majority of gas appliances are covered by the scope
  - Main exclusions are industrial equipment & steam plant

- Independent evaluation is always required
  - Laboratory testing, and
  - Ongoing surveillance of production items

- Requirements of GAD do not imply that other EU Directives (eg: LVD & EMC) have also been independently checked

- Compliance with GAD allows the legal SUPPLY of equipment – not necessarily the legal INSTALLATION!
Issue 1 – Who judges the judges?

- Notified Bodies are commercial entities and compete with each other for business…
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  - Reduced costs of product “approvals”
  - Reduced time in getting products to market
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So who decides what the minimum acceptable level of quality is?
Issue 1 – Who judges the judges?

- GAD has quite vague requirements for “competence” of Notified Bodies
- Left to each Member State to appoint Notified Bodies and verify their competence
- 53 have been appointed – is the competence “playing field” really level??
- Issue often has a “knock-on” effect on equipment suppliers…
Issue 1 – Who judges the judges?

- Example of remote controls for gas fires…

- Which Notified Body is doing the best job…?
  - Depends on your perspective
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• Example of remote controls for gas fires…

• Which Notified Body is doing the best job…?
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Issue 2 – Essential Requirements

• GAD “essential requirements” are a useful framework for Manufacturers and Notified Bodies

• Especially useful for novel products or new technology and allow these to be placed on the market in the absence of EN standards

• But (intentionally) quite vague and subjective
  • When linked with varying Notified Body competence…??
  • Lack of transparency of the requirements applied
  • Lowest common denominator?
Issue 2 – Essential Requirements

- Example of patio heaters…

Level of Safety

Time
Issue 2 – Essential Requirements

- Example of patio heaters…

Initially each Notified Body has different view as to the minimum safety requirements
Issue 2 – Essential Requirements

- Example of patio heaters…

Over time, Notified Body views tend to converge based on experience and development of standards
Issue 2 – Essential Requirements

- Example of patio heaters…

Convergence is usually achieved when EN standard is published.
Issue 2 – Essential Requirements

- Example of patio heaters...

Can often take 3-5 years for development of an EN standard

EN standard published
Issue 2 – Essential Requirements

- Example of patio heaters…

Level of Safety

But compliance with standards is NOT mandatory

EN standard published

Time
Issue 3 – A “Single Market”?  

Applicable in the countries of the “European Economic Area”  

Which includes:  

- 27 Member States of the EU  
- Members of EFTA  
- Member States joining the EU
The EEA “single market” has a wide range of:

1) Gas supplies
   - 6 Different types of natural gas (at 4 different pressures)
   - Different gas connection standards
   - 4 different types of LPG (at 4 different pressures)
   - Different conventions on LPG cylinders and supplies

EN standards include complex system of gas categories to cover this variation.
The EEA “single market” has a wide range of:

2) Installer competence
   • Mandatory use of qualified installers in some countries
   • Installation by householders and users in others…

   • GAD does not require appliances to be safe if installed incorrectly – EVEN if this is “reasonably foreseeable”

EN standards are generally based on (unwritten) assumption that installation will be by qualified installers.
Issue 3 – A “Single Market”?  

The EEA “single market” has a wide range of:

3) Installation Laws and Standards

- Due to local building regulations and customs?
- Related to local climate?
- Other local and social issues?

- Remember that GAD allows legal SUPPLY of a product, not necessarily legal INSTALLATION.

Some evidence suggests that local installation codes are used as an effective barrier to trade…
“CE Marking” of gas appliances is 11 years old…

- Flexible model that supports objective of free trade
- Clear benefits delivered to manufacturers and suppliers
- The sky did not fall on anybody!
Summary

• Concerns remain about:
  • How we ensure Notified Body competence
  • How we address variations in installer competence
  • Growth in barriers to trade via installation codes
  • How we can harmonise gas supplies in an expanding EU
  • Improving participation and development of EN standards
Thanks for listening