What is BS 6173 ?

Corgi Technical Bulletin TB 130

Notes to explain the current Gas Supply Regulation requirements in regard to the recent British standards (BS6173) modified code of Practice for interlocking and isolating the gas supply in the event of a (waste gas) (cooking fumes) ventilation canopy failure.

1. To comply with the Gas supply regulations and the requirements of the HSE it is essential to use a properly accredited CORGI registered installer to service, replace or connect fired gas fired equipment. The current requirement for a catering gas operative is the new ACS Commercial Catering Safety Certificate Groups 1,2,3 plus a pipe-work testing qualification.

2. The operatives who have recently undertaken this certificate have been made aware of their personal duty and liability in handing over a potentially unsafe ventilation canopy or run of pipe-work.

3. If a commercial kitchen is a working unit the existing equipment, flues, means of extract and ventilation and also the pipe-work should have been inspected by a competent person. This might be annually (or more, sometimes more frequently in heavy use kitchen) if the owner or user wishes to comply with the current legal requirements.

4. When the equipment or the pipework is formally checked and certified by a competent gas engineer for soundness and safe working on a service call this could in certain cases be deemed an inspection.

5. It should be understood that the CORGI Registered person (Not the company) making the inspection and signing the Certificate is personally liable for any unsafe conditions. Furthermore if they do not issue a Not to Current Standards (NCS) notification or sticker the equipment as 'unsafe do not use' and physically disconnect it from the gas supply they could be prosecuted for negligence personally in extreme circumstances.

6. All of the time that gas supplies or cooking equipment is in an unsafe condition and can be proved as such, the fire insurance for the building could be rendered 'null and void' and very awkward questions would be asked by a potential fire investigator in the event of an incident occurring.

7. If a ventilation (waste gas product removal flue) canopy and combustion air supply is not interlocked to a fail safe (i.e. cuts the gas off to all flue type gas appliance and any electric supply to ancillary frying appliances) system that monitors any failure of the means of waste air being extracted or choking the combustion air input, the cooking equipment is deemed 'Not to Current standards' or unsafe.

8. The retrospective application of the need for gas interlocking to ventilation is activated by the replacement or retrospective installation of a Class 2 gas fired appliance. These are cooking items that have a high output of waste flue gases and in technical terms should be connected to a dedicated flue outlet with a proper combustion air supply. Fryers, convection ovens, Combi ovens, dynamic steamers and most other prime cooking production gas fired appliances require this level of technical attention to waste gas removal and combustion air.
Although a single open top 4 ring gas cooker may not be specifically noted in the BS standard, if the equipment is used for prolonged periods in a poorly ventilated compartment and within closed area without a natural ambient air supply, the equipment would be considered to be in an unsafe condition by a competent and technically accredited gas engineer.

9. New installations or modifications of existing installations should be compliant with the current regulation and the gas supply should shut off in the event of ventilation failure, or waste air exhaust failure.

PLEASE SEE NOTE on GSIUR 27 [4]

10. The interlock should also have a fail-safe means of shutting off the gas supply with a normally closed solenoid valve controlling the whole supply to the kitchen appliances and ancillary service counters if they are in the kitchen/ compartment.

11. If a "Provengas" / Gas Proving System type of interlock control is used, this means that the gas cannot be turned on inadvertently with any gas valves open. A safe system and procedure for re-commissioning needs to be set by duty holder, the manager of the chef.
A Gas Proving System MUST be fitted to comply with gas regulations if any appliances do not Have Flame Failure / Flame Supervision fitted.

12. If the kitchen equipment has been inspected and serviced regularly by a competent person who knows the technical standards and the ventilation canopy or means of gas isolation have not been deemed unsafe then it is likely that the kitchen equipment is safe to use for the time being.

13. If new equipment needs to be installed to replace old gas fired cooking appliances and the kitchen has not been surveyed or checked for a prolonged service period, it is likely that improvements may be needed to comply with the current BS or HSE standard.

14. Corgi, HSE and the technical standards committees assume that over a short period improvements will be made to kitchen equipment because of the requirement for engineers to regularly inspect equipment. There is also an assumption

that owners and users of gas fired cooking equipment will upgrade their cooking ventilation in good time to meet the standard because of regular fire risk assessment strategies and the usual problems with insurance limitations and liabilities.

15. It is noted below some issues that drive building owners or managers to consider whether a gas flue and ventilation interlock system is required. For instance does the existing kitchen ventilation meet the following conditions:
• Does the existing or proposed waste flue gas extract systems introduce sufficient clean, cool air and at the same time remove excess hot air efficiently from the cooking area, to enable the occupants to breathe adequately and provide comfortable conditions.
• Can you prove by formal means that the ventilation system prevents incomplete Combustion of the fuel gas and the subsequent production of harmful Carbon Monoxide.
• Does the existing or proposed extract and air supply system facilitate dilution and Removal of odours, vapours and steam resulting from the cooking process.

Factors which your CORGI registered engineer is trained to identify as high risk are:
• Evidence that existing ventilation system is not clean, not used at all times, is under-Powered or is unreliable for use through the working periods.
• Small room volume, no windows and air supply from the outside or the building.
• Obvious poor design/maintenance of ventilation system (long convoluted ducts, broken Fans, leaking ductwork, visible escape of cooking fumes/steam etc.
• Lack of user awareness of the effect of using gas appliances without adequate ventilation.
• Poor general ventilation to dilute and remove any spillage of waste gas products from cooking appliances.
• Extended use of added gas fired appliances with inadequate size of canopy.
• Ageing system/installation.

Conversely, factors, which a CORGI catering engineer knows will reduce risk, include:
• Good natural ventilation
• Satisfactory fumes removal by ventilation ductwork by natural draught alone.
• Well maintained, clean ducts, clean filters and a visually clean ventilation system.
• Good user awareness of risks and proper documented procedures for using additional ventilation at all times necessary.
• Minimum use and number of gas fired appliances for the size of canopy.
• Modern ventilation system and easy to use controls
• Large room size with windows or visible external air supply or air bricks.
• Clear permanent notices warning that appliances must not be used without the ventilation system in operation and an example is shown below of suitable wording for advisory notices in kitchen. The text would be:

'IMPORTANT FOR YOUR SAFETY, DO NOT OPERATE ANY COOKING APPLIANCES WITHOUT THE MECHANICAL VENTILATION SYSTEM IN FULL OPERATION'

These notes are for guidance only, and should explain why a CORGI registered engineer would condemn an existing gas fired cooking appliance, ventilation canopy or suite of cooking equipment.

Regular service and maintenance by technically competent engineers can forewarn an operator of new technical standards to allow upgrading to happen in good time. The new CORGI ACS qualifications stress the need for engineers to be diligent and pro-active in their application of the required standards.

However, it must be stressed that the ultimate purpose of current upgrading of existing standards is to make the kitchen a safer place to work within and to reduce the risk of fire and death from Carbon Monoxide gas inhalation.

What is GSIUR 27 (4)?

Gas Safety (Installations and Use) Regulations is an approved code of practice and guidance, which is approved, by the Health and Safety Commission, with the consent of the Secretary of State.
It gives practical advice on how to comply with the law. If you follow the advice you will be doing enough to comply with the law in respect of those specific matters on which the Code gives advice.
The Code has special legal status. If you are prosecuted for breach of health and safety law, and it is proved that you did not follow the relevant provisions of the Code, you will need to show that you have complied with the law in some other way or a court will find you at fault.

Regulation 27 (4)
"No person shall install a power operated flue system for a gas appliance unless it safely prevents the operation of the appliance if the draught fails"
Guidance
"An interlock should be provided that will cut off the gas supply if the draught falls below a pre-set minimum standard for the operation of the appliance, and prevent the gas supply being re-established unless is safe to do so.
The advice of the appliance/flue system manufacturer should be sought, as necessary, in respect of interlock design requirements and reference should be made to appropriate standards, eg concerning provision of manual reset facilities and interlocks with flame proving devices. (See also regulation 32 and associated ACOP/guidance concerning flue dampers)."