Exclusively for HETAS Registrants



HETAS TECHNICAL BULLETIN#11 JUNE 2018#11



Our industry is under the spotlight within Government and the media more than ever; HETAS and Woodsure have been busy working with PR consultants Golly Slater and industry trade associations to spread essential messages. The Government's main concern is Air Quality which is overseen by Defra. We are fortunate to have close ties and strong working relationships with the air quality team there. Our basic statement is that burning the right fuel in the right appliance reduces particulate emission levels in the air we breathe. We are clear that reducing environmental impact from mineral fuels means burning only smokeless fuels - The HETAS Guide and website lists many varieties. On the wood-fuel side the Woodsure "Ready to Burn" scheme gives a recognisable logo and brand to clean wood fuels with a moisture content of up to 20% - shown by scientific studies at Leeds and Manchester Universities to reduce particulates, in some cases by up to 80% when compared to poor quality fuel in open fires.

This is the message to give to your customers and potential customers: buying the right smokeless fuel or Ready to Burn fuel, and by installing Defra exempt and Ecodesign Ready appliances, they can be part of the solution rather than part of the problem.

If you have comments we would be pleased to hear from you at:

hello@hetas.co.uk.

- Bruce Allen, CEO

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NEW TECHNICAL TEAM MEMBER

Richard Parke has joined the Technical Helpline to offer advice and assurance to our Registrants. As well as hands-on experience in the plumbing and heating sector, Richard has worked in the engineering sector as a Marine engineer, on Concorde, for Rolls Royce and the Tornado Eurofighter aircraft.

Outside the office Richard enjoys Tai Chi, Chi Gung (we don't know what it is either) and gardening.

Phone the Technical Helpline on:

01684 278194



HETAS Unsafe Situations Procedure

CALVIN MAY, TECHNICAL STANDARDS MANAGER, ON THE NEW HETAS UNSAFE SITUATIONS PROCEDURE (HUSP) TO AID IDENTIFICATION OF RISKS WITH A RE-COMMISSIONING CHECKLIST

Over recent months, HETAS have been looking at the ways in which it can support its stakeholders further when identifying installations that may pose a significant risk to either the properties occupants or ongoing fire safety of the buildings structure.

The HETAS warning label process is currently available to identify scenarios that pose an immediate risk, however there are certain circumstances whereby the installation does not follow the current Building Regulation guidelines or will pose a significant risk under continued use of the appliance that requires a further assessment and decision on what protocol to follow.



Position & operation of a CO alarm is one of the visual checks on the new HUSP form. Images courtesy of CoGDEM.

With this in mind, HETAS have gone on to develop an industry recognised "Unsafe Situations Procedure", to formulate a new process in which to identify all areas of potential risk within an installation following UK Building Regulation guidelines and requirements of UK applicable standards. The procedure will allow for the engineer to identify and take the appropriate action where required to negate the area of risk and appropriately report their findings to either relay to the consumer or evidence as a means of carrying out further remedial works.

As with most assessments, the procedure works on the basis of using the engineer's competence, experience and training to identify potentially hazardous scenarios, however provides effective tools in which to makejudgement and evidence the reasoning behind these judgements, and to record with written consent from the consumer.

continued overleaf ...

The procedure encourages an appropriate assessment to be made in all cases, and appropriate action to be taken defined against three classification categories:

Assessed Risk Low – typically categorised as those installations that have installation techniques that fall outside the current scope of Building Regulation guidelines and relevant standards, however can be seen to have been working correctly without risk for a number of years.

Assessed Risk High – installations that at the current time of assessment have been assessed and deemed to contain risk but not immediate risk. However continued use of the appliance over time will result in danger to the occupants and/or the property.

Immediately Dangerous – as written within the current Warning Label process, a dangerous appliance or installation which poses an immediate danger to the occupant of the property at the time of assessment.

To aid installers further, the procedure provides some additional guidance of some of the more common installation scenarios, as well as a guided risk category score in which to make judgement against, and will be continually developed as new situations and innovation advances over time

VISUAL CHECKS

- Immediate signs of spillage (dark deposits in sight of appliance)
- Permanent and adequate ventilation to the appliance (apertures not blocked)
- Condition of the chimney structure and flue
- Position and operation of a CO alarm
- Charring of any visible wooden beams/combustible materials

USER INFORMATION

- Copy of manufacturer installation/ servicing instructions present
- Any previous activation of CO alarm
- Any previous incidents of spillage
- Previous maintenance/sweeping schedule
- Appropriate fuels being burned
- Any issues lighting the appliance
- Has the installation been signed off by an appropriate competent person?

The HETAS Unsafe Situations Procedure assessment form cover the process shown above.

Appropriate Action

HETAS will continue to make its warning label available, which can be attached to the appliance should any situations be found to contain risk of an immediate nature, advising the consumer not to operate the appliance further until required remedials have been undertaken. The form will now contain details of the assessment undertaken, defects identified and outcomes in which to discuss with the consumer to ensure an understanding of what needs rectifying is discussed and agreed.

What does the assessment cover?

The assessment covers the 5 main areas of the Building Regulations J1 to J5, including ventilation, dispersion of products, CO activation and protection of building, as well as some of the caveats contained within BSI installation standards BS8303 and BS EN 15287-1. The assessment will also need to consider the characteristics of the property and whether any energy efficiency changes have been made over the years (improved insulation, cavity wall, and draught excluders), so communication with the consumer, visual checks and appropriate testing are essential to formulate the required point of action.

The assessment form available is a simplified reference point on what to look out for when at the property in compliance with Building Regulation guidelines, as well as the appropriate re-commissioning checks to carry out and signed declaration of the results. All installations would need to be left in safe circumstances through confirmation of the appropriate smoke test, flue draught extraction tests and spillage tests, all guidance of which to perform and carry out this testing is contained within the electronically supplied document.

APPROPRIATE TESTING

- Sufficient flue draught in line with manufacturer parameters
- · Effects of extraction on flue draught
- Products of combustion being emitted into the atmosphere
- · Chimney/flue leakage
- · Appliance spillage

ADVISE CONSUMER

Ensure the consumer is made fully aware of the results of any assessment undertaken and reasoning behind why any appropriate action is taken.

Dependent on the risk based score, ensure that the consumer is fully aware of the safety aspects of the continued operation of the appliance or whether further remedials are required as appropriate.

Further Information

Further information and supporting documentation as always can be found in the technical area of the HETAS website at:

www.hetas.co.uk/members-area

or call the HETAS technical helpline: 01684 278194

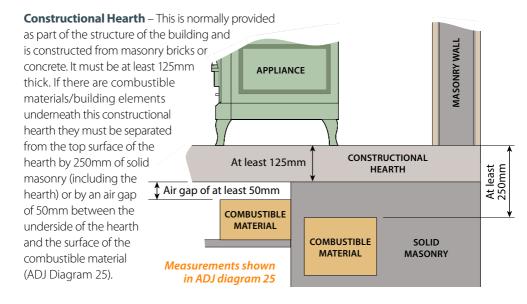


BRIAN BAILEY, SENIOR PRODUCT EVALUATION OFFICER, TALKS IN DETAIL
ABOUT REQUIREMENTS FOR HEARTHS, INCLUDING THE SPECIFICATIONS
NEEDED TO CONSTRUCT YOUR OWN FOR A SUITABLE APPLIANCE



The HETAS technical helpline continues to receive enquiries relating to the suitability of an appliance for installation on either a full constructional hearth or more simply a hearth made from a single sheet of non-combustible material placed over and to protect a floor that might be damaged or catch fire as a result of falling embers or hot ashes. Approved Document J (ADJ) provides detailed guidance in paragraphs 2.22 to 2.29.

Which type of hearth that can be used will depend on the appliance being installed. Only appliances that have been tested to show that they do not heat the floor beneath them to more than 100°c are suitable to be installed on a hearth made from only a single sheet of non-combustible material. All other appliances can only be installed on a full constructional hearth.



A freestanding constructional hearth must be at least 840mm square. Where the hearth is part of a fireplace recess the constructional hearth must project forward at least 500mm from the side jambs and sideways (from the recess opening) to at least 150mm (Diagram 24 in ADJ).



Superimposed hearth icon in The HETAS Guide **Superimposed Hearth** - The upper surface of the constructional hearth is normally finished by a superimposed hearth to provide a more decorative effect and to provide a clear floor area (from combustible materials) required around the appliance. These clearances are 150mm to the sides and back of the appliance and 225mm to the front (for a closed appliance) or 300mm to the front for an open fire or a closed appliance that can be used with its doors open as directed by the appliance manufacturer (see ADJ diagram 26).

It is important to note that where the hearth is placed near a wall that is sensitive to heat then it may be necessary to protect this wall (see ADJ diagram 30) or ensure the appliance is located at a safe distance in accordance with the appliance manufacturer's specifications. Even masonry walls covered in paint or paper should be considered sensitive to heat.



Another function of the superimposed hearth is to provide a physical/visible barrier marking the clear areas required around the appliance. This is often achieved with a change in surface height or texture and serves to warn against fixing any combustible flooring such as carpet, wood or laminate within this protected zone as well as the casual placing of anything combustible. This also helps to warn occupants they are near a hot appliance and mitigates possible burning.

Provision of a hearth using non-combustible board/sheet material

As explained above, if the appliance being installed has been proven by testing not to raise the floor beneath it to more than 100°c then a single sheet of non-combustible material may be used as the hearth. The appliance manufacturer will provide the necessary details in their instructions if this is the case. If this information is not given or the appliance manufacturer is unable to advise then it must be assumed that a full constructional hearth is required.

The use of single sheet hearths in this way is often incorrectly referred to as a superimposed hearth. This is not technically correct as a superimposed hearth is the top surface used to finish off a full constructional hearth. Using the phrase superimposed hearth may also lead to a misunderstanding of the purpose of the hearth being provided by the single sheet material, namely to protect any combustible flooring from falling embers and/or hot ashes rather than heat being emitted by the appliance.

The size of this "superimposed" hearth sheet should be a minimum of those given for the superimposed hearth on a constructional hearth described above however it is permissible to reduce it to those specified by the appliance manufacturer where appropriate or where it is deemed that there is no risk of spillage of ash or burning fuel embers. (Diagram 27 (a) and paragraph 2.27 in ADJ gives details).

The thickness of a single sheet hearth should be 12mm and should rise above the surface level of the surrounding flooring. In some cases it may be permissible to use thinner material if specified in the appliance manufacturer's instructions or when it is considered that the properties of the sheet material used are sufficient to serve the purpose. e.g. will the material protect the floor underneath (where necessary) from heat damage in the event of a spillage of hot/burning embers or hot ash and will the material cope with the weight of the appliance without distorting or cracking?

Other Considerations

Constructional hearths often form the basis for a builders recess and a masonry chimney stack and so may be providing the foundations for this substantial structure within the dwelling. Always bear in mind that if a masonry chimney is required as part of the installation then it will require a substantial foundation that is unlikely to be fulfilled by building from a floor structure that previously has not served this purpose. In such cases it will be necessary to start "from the ground up" with provision of suitable foundations and a full constructional hearth before consideration of the building of any masonry chimney stack.

It is possible to use an alternative lighter weight chimney system such as a twin wall metal system that is suitably braced to the property structure throughout its length. This will avoid excess weight bearing upon the appliance and being transmitted to any single sheet hearth where fitted in appropriate circumstances.

Be wary when bringing fireplaces back into use when they have been redundant for some time. If the construction of the fireplace recess and hearth has been modified in any way then it may require correction to enable it to be used as a fireplace once again. In particular the hearth base may have been structurally changed or may have been incorporated with a damp proof membrane that will degrade or even disintegrate or flame off if the fireplace is used again particularly if used for an open fire.





Commissioning of any solid fuel combustion appliance is a vital, if not the most important part of the installation process, however with it usually being the last task it is often overlooked, rushed or incomplete and/or not documented.

Building Regulations require appliances and flue systems to be tested on completion to ensure safe operation. The guidance in Approved Document J (1.54) states:

"In order to document the steps taken to achieve compliance with the requirements, a report should be drawn up showing that materials and components appropriate to the intended application have been used and that flues have passed appropriate tests. A suggested checklist for such a report is given at Appendix A and guidance on testing is given at Appendix E. Other forms of report may be acceptable."

Essentially, you are checking that the appliance and flue comply with the Requirements of the Building Regulations and are safe for use - Smoke testing - (refer to ADJ Appendix E) Spillage Testing (see Technical Bulletin #10) and Flue Draught Testing (see Technical Handbook Chapter 5.5.3) all assist in identifying the safe operation of an appliance and flue.

Smoke testing alone may not be sufficient, with smoke knowing to clear satisfactorily with a flue draught as low as 4Pa. Many appliance manufacturers require a flue producing more than -12Pa, and it is important to observe their specific guidance on how and where to take a draught reading. Some now have dedicated test points in the appliance.

As appliances become more efficient in line with EcoDesign and require stricter parameters for efficient combustion, it is important that commissioning tests are performed to ensure compliance to manufacturers specific requirements, along with Approved Document L1B (b&c) – ensuring the appliance uses no more fuel than required.

Commissioning also includes providing the end user with sufficient information about the installation and where it involves lighting the appliance, can be a great way to demonstrate correct operation to the end user, along with discussing other important items such as fuel quality, maintenance requirements, specific installation items (such as air vents and CO Alarm position) and what to do in an emergency.

What is critical after completing the commissioning and handover process, is to document the results for any future reference. A copy should be retained by both consumer and installer and ideally, signed by the consumer accepting they have understood the handover. Should an issue occur in the future, a commissioning document will act as a reference stating what tests have been conducted and the results on the day of completion.

Many manufacturers include commissioning checklists in installation/user instructions which have to be completed by the installer to activate any warranty. HETAS also produce Commissioning Pads to document the commissioning test results and handover process. The pads are duplicate (one for installer, one for consumer) and include an end user signature, along with helpful reference information and safety guidance.

These can be purchased through the HETAS shop. It's important to note that a Certificate of Compliance does not document Commissioning Test results and all new appliances and flues still require Notification.

HETAS Inspectors are readily promoting the use of commissioning documents and will ask for, or discuss the benefits of using such forms on inspection. A thumbnail of the HETAS Commissioning Sheet is shown below, or a larger specimen Commissioning sheet along with further information on commissioning can be found in your Technical Handbook, Chapter 5, Page 5-42. Whilst more paperwork may seem like a burden, commissioning forms are a vital part of installation process.

Sample HETAS Commissioning Sheet:

		HETAS Ltd Commissioning		HETAS
Required for HETAS onl				
Your Re			Completion	Date*
Customer	Name*			
Installation A	ddress*		41	
Po	stcode*	Contact number/email		/email
Installing Co	mpany	Company HETAS Reg No Installer HETAS Reg No		g No*
Installing Enginee	r Name			a No*
		Installation Work Car		
Does the installatio	n replace an ex		s □ OII □ S/F □	New heat source □
Location*	Lounge	Dining Room □ Kir	trhen Other - plea	se specify
Appliance Make*	counge 🗆	Model*	Heat Outs	
Appliance Make* Appliance Type		Model* Specified Fuel	Heat Out	
			-	
System type*			xisting Heating & Hot Water	
Chimney*	Existing	New insulated factory made		f existing chimney 🗆
Construction Type		Flue dimension	mm 'Designati	
Hearth: Hearth / Sun	round	New / Existing (Delete as a	opropriate) Fireguardi	Yes / No
ventilation in accorda		D1. 3se g & Commissioning including Ap		
Visual inspection		also beat files described		□ Pa/W
Test on flue including satisfactory smoke test; Flue draught reading Spillage Test performed in accordance with available quidance (as appropri				O Pa/W
Check socket joints a				ā
Instruct user on correct types of fuels and fuel storage				0
Instruct user on essential maintenance and in particular regular chimney sweeping Hand over user instructions & Demonstrate appliance operation and all controls to the				
Hand over user instructions & Demonstrate appliance operation and all controls to the Ensure that a Notice Plate has been completed and fixed in position				
An approved Carbon Monoxide alarm has been fitted: Location				
For boiler installation accordance with mar	is: appropriate s nufacturers guid	afety devices installed/checked & elines	system commissioned in	-
commissioning & han	dover. If applica	it constitute to a Notification to you ble, details in Manufacturer's instru- ulding control via HETAS within 3	ctions for commissioning must b	
Declaration of com appliance and assoc	missioning*: As lated work has b	the competent person responsible on installed in accordance with the gregulations in force and manuf	le for the work described abov he HETAS rules of registration, acturer's instructions.	and that the work
		Print Name:	Date	
Customer Handov				
		onfirm the Installer has given ad		0
Appliance use, controls & relevant safety/installation information e.g. CO Alarm Importance of regular maintenance				0
Importance of regular maintenance Importance of appropriate approved fuel				
				_
Signed:		Print Name:	Date:	

Uncommissioned Appliance Labels

We continue to have occasions where the installation of Solid fuel Stoves have been interrupted by other trades or consumers leaving the installation in an unfinished state. Attaching an uncomissioned label on the appliance is the only solution open to the installer; this alerts the home owner or the client that the job is pending completion and not to be used.

Whilst we acknowledge that this is far from ideal it has left some of our registrants in a difficult position. We would also advocate that you evidence this in some way, usually a digital photograph will suffice.

These issues arrive on our desk in a number of ways not least of all when the client refuses to have an air vent fitted or the client has changed their mind on the finish of the builders opening or wooden beams have been fitted in the wrong position.

Once the installation is complete, commissioned and handed over to client then a Certificate of Compliance can be issued in the normal way.





These uncommissioned appliance labels are available for purchase from the HETAS shop

What is Defra's Clean Air Strategy?

Misinterpretation of recent research studies and the subsequent, negative media attention of the UK's worst pollution level contributors, has given rise to several claims that the government wants to ban solid fuel stoves. HETAS, Woodsure and The Stove Industry Alliance have all been in consultation with Defra, who have once again clarified that they are not looking to ban stoves.

The Government's position is reinforced by the publication of The Clean Air Strategy, which mentions Woodsure's Ready to Burn scheme as a "proactive industry initiative" which is backed by the government. **The Clean Air Strategy is available to read online at:**

consult.defra.gov.uk > search for "Clean Air Strategy"

The document states that the calls for total bans received in response to the Government's "Call for Evidence" of the impact of solid fuel burning were primarily due to "personal experience of nuisance or health impacts", caused by misuse of appliances or use of incorrect and/or poor-quality fuels.

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Continued overleaf...



Defra's Cleaan Air Strategy continued...

Modern, efficient appliances, smokeless fuels and dry, Ready to Burn wood will greatly reduce solid-fuel particulate emissions – currently burning wood and coal to heat a home is said to contribute a worrying 38%* of UK emissions of damaging particulate matter (although some are questioning the figures used to determine this number). Biomass boilers are also addressed in the strategy.

*38% of UK primary PM emissions come from burning wood and coal in domestic open fires and solid fuel stoves, 12% comes from road transport (e.g. fuel related emissions and tyre and brake wear)10 and a further 13% comes from solvent use and industrial processes11 (e.g. steel making, brick making, quarries, construction). Between 1970 and 2016 primary PM10 emissions fell by 73%, and primary PM2.5 emissions fell by 78%. However, emissions of PM10 and PM2.5 have been relatively stable since 2009. The aim is to reduce emissions of PM2.5 against the 2005 baseline by 30% by 2020, and 46% by 2030.

What does the document cover?

The Clean Air Strategy is a key part of Defra's 25 Year Plan to leave our environment in a better state than we found it. Air pollution is the highest environmental health risk in the UK, and the fourth highest health risk in the UK (after cancer, heart disease and obesity).

The strategy aims to reduce national air emissions from the following five harmful pollutants to allow the UK to meet legally-binding international environmental targets:

- fine particulate matter (PM2.5)
- √ ammonia (NH3)
- ✓ nitrogen oxides (NOX)

✓ sulphur dioxide (SO2)

non-methane volatile organic compounds (NMVOCs)



The Ready to Burn Scheme is backed by Defra and mentioned in Michael Gove's Clean Air Strategy as a proactive industry initiative.



The Clean Air Strategy presents a list of goals which aim to reduce air pollution in the round, making our air healthier to breathe, protecting nature and boosting the economy. However some of the points listed directly relate to the solid fuel industry - the following action points aim to reduce emissions from domestic burning:

Increase consumer awareness

Making sure home-owners are educated on the benefits of modern appliances and which fuels to use will substantially reduce UK emissions. Local authorities have advised that awareness of, and compliance with, smoke control area legislation is low and that few people make the link between domestic burning and air pollution.

Legislate to prohibit sale of the most polluting fuels

The Government is looking to update their legislation to ensure only the cleanest fuels are available for sale. The Call for Evidence on domestic solid fuel burning sought to identify appropriate actions to reduce the sale of green wood in small bags which are often burned without being seasoned or dried, as well as the impact of phasing out the sale of the most polluting mineral fuels.

Only the cleanest stoves can be bought and installed

Tougher emissions standards for all new domestic stoves will come into effect in 2022. This will entail more stringent emission limit requirements for solid fuel appliances as well as a more effective approach to testing.

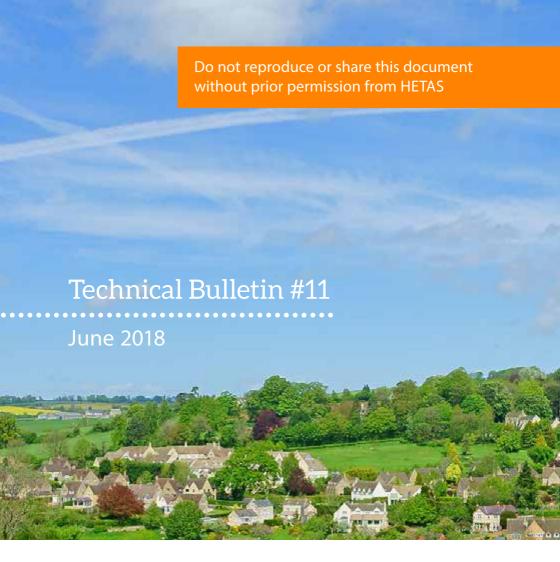
Give new powers to local authorities to take action

Smoke control areas are designated by local governments - it is illegal to allow smoke emissions from the chimney of your building in these areas. Historically, Smoke Control Areas have been hard to enforce, but local governments will be given additional powers to go further in areas of high pollution, for example exploring what further steps government can take to enable local authorities to encourage 'no burn days' during high-pollution episodes.

Quality tested fuels

Cleaner fuels produce less smoke, less soot and more heat. The Woodsure Ready to Burn scheme has been identified by Defra as the label to assist consumers in identifying firewood that is suitable for use. The Government is working with industry to identify an appropriate test standard for new solid fuels entering the market - the strategy mentions the intention to limit the harmful sulphur content of solid fuels to 2% nationwide to protect consumers health.

Read the full article on the HETAS website: www.hetas.co.uk/defras-clean-air-strategy



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