

Questions and answers from Role and responsibilities for radiator selection and installation event held on March 10th, 2021

Summary

Following a presentation and question and answer session that ran beyond the allotted time for the webinar, MARC agreed to supply written answers to remaining questions that they had been unable to respond to on the evening. Questions in bold from attendees and written responses included below.

The recording of the session can be viewed at <https://www.youtube.com/watch?v=IDe24mM-W1Y>.

Remember, CIPHE members can contact the CIPHE Technical Helpline on 01708 463117 if they have any questions regarding this or any other technical subjects

1. **There was lots of talk about lowering flow and return temps from boilers? Surely (and stop me if I'm missing the point), this would lower the temp of the radiators which would render a heating system "background heating" and inadequate and would prevent rooms reaching their design temp's?**

The key here will be ensuring that the radiators and heating system is designed correctly for the lower temperature. It is very likely larger radiators will be needed in many circumstances.

2. **With low temperature radiators the heat Generator will be on low settings, the problem is when D.H.W is required, it will take a lot longer to heat up. It will therefore need to be set at a higher temperature. So, would it not be best to have the Radiator Circuits on a mixing manifold.**

This would be something that the heating engineer should advise on

3. **Tricky to assess the output of an old rad to prove it needs changing**

Agree, and this will be one of the challenges to moving to lower temperature systems.

4. **The main problem I have is calculating for a DT° of 16k° for use with ASHP /GSHP**

Often, speaking to the heat pump manufacturers directly can help with calculations. Many are happy to help with system design to ensure optimum heat output.

5. Does the heat calc work with heat pump systems?

They work in the same way, but the water flow temperature will be lower

6. I wrote a letter in Pham this edition asking why are suppliers allowed to sell terms that we are not legally allowed to fit, so why can we buy radiators that are not legal to fit?

It is actually illegal to sell radiators without the proper testing documentation. However, there is not enough policing of the law and so illegal radiators end up being sold. One of the aims of our campaign is to ask all resellers to ensure that what they are selling is legal.

7. How could you address this issue in PFI buildings which look for like for like refits?

All replacement rads should meet EN 442, regardless of what was previously installed.

8. When will we finally stop bringing in more plasters to fix this problem and just fine manufacturers for selling bogus products into the UK market? The poor installer or indeed merchant is again seemingly taking it on the chin.

That is the law, however more people need to know about it, and it needs better policing.

9. Does the heat loss calculator comply with the CIBSE Guide and EN12831?

It does not at the moment and is meant as indicative guidance only at this stage. However, we are developing the tool all the time.

10. We fit new radiators to comply, we shall also have to upgrade pipework added cost to the customer will that in turn bring it down to price?

Very probably, and that is a key concern with regards to what consumers will do in the future when faced with higher costs.

11. You're talking about low temperature systems on conventional products. What about the higher temperatures from Fuel cells?

The Government is likely to recommend that all future flow temperatures are reduced, including for fuel cell products.

12. Will Underfloor Heating do away with Radiators

Given the numerous housing types and ages in the UK all heat emitter products are likely to be needed in the future.

13. How do we size radiators for lower temperatures but high flow rates?

You can use the heat loss calculators discussed at the meeting as an estimate, but you would have to use the correction factors mentioned in 24 below to apply to the radiators stated output at DT50 to meet the required DT. To get the correction factor we use the exponent (n) which is gained from the EN442 testing and should be published for all products.

14. By reducing heating f and r temps, aren't we turning systems into background heating?

All systems should be designed to give a suitable heat output even with lower flow temperatures.

15. Can we make Best Practice provide the end-user with a heat loss calculation summary detailing the correct size of radiators that have been installed?

We agree that this should be worked towards

16. Maybe to overcome the situation when coming home on a freezing day a boost heat area in the lounge could be provided

17. Low temp heating - If you don't use TRVs how do you control the temperature in each room

All systems should have a TRV installed

18. Why is it now harder to find radiator heat output correction factor?

The correction factor table is industry standard and not created by manufacturers. All the relevant information to calculate the correction factor should be supplied in the manufacturer's technical data; output at DT50 and the exponent (n). The calculation is fairly straightforward. However, the table may be reproduced in the more technical areas of websites or within detailed technical literature.

19. In 2022 then every radiator in the UK could possibly be non-compliant? dropping the mwt to 50 and dt 20 against a dt 11 and mwt 70 which they would have been designed for?

The new regulations will be when replacing a whole system, so radiators and boiler. This will mean the radiators will be being replaced and so will be compliant.

- 20. There was no mention of reducing the loss of emitted heat from radiators by using a reflective backing (e.g., radfoil) on the wall behind a radiator. I am not sure whether that is a significant inefficiency when the most modern radiators are used.**

Reflective backing should not be necessary in UK housing unless there are significant heat loss problems.

- 21. Many clients (domestic and otherwise) just want a quick fix (because time=money), or they want to choose their own radiator type (usually more about look than function) and buy it on the Internet. It's understandable yet not conducive to a good solution.**

We agree and this is why our campaign is to cover consumers and resellers on the internet.

- 22. here is a fashion for more UFH, and the heat pump sector is strongly recommending it more and more. I'm not so sure about this, so what is MARC' counter argument. This is what we installers have discussed with clients.**

MARC support all heat emitters including underfloor heating in the right situations. However, heat pump installations do not need to have underfloor heating and most modern radiators should be appropriate for heat pumps.

- 23. A number of times the panel mentioned CE. I always look to see if the radiator has an EN (European norm) number. If it does there is usually a BSS number too. What is best to look for?**

Always look for the CE mark and from 2022 the UKCA mark.