

PLUMBING BEST PRACTICE

SR 50 Series

– gateway to plumbing/ heating systems best practice

While it may be hard to believe, up to earlier this year Ireland never had an Irish Code of Practice for heating and plumbing in domestic dwellings. It's not been for the want of trying, and all credit to SEAI and NSAI – and more especially Paul Martin of SEAI and Fergal Finn of NSAI – who have persevered in the face of all manner of obstacles to get what's now known as the SR Series 50 over the line.

In fairness, a big part of the problem is the nature of the Irish marketplace. In other European countries, industry representative organisations take existing European standards (EN) and draft their own industry-specific codes of practice. However, the sector in Ireland lacks a cohesive structure and the absence of such organisations mitigates against this happening. That said, NSAI boldly undertook to draft codes of practice for the Irish plumbing industry and, despite being a very drawn out process, these have now been published in the form of the SR 50 Series of Irish Standard Recommendations. Obviously, they include the requirements of existing European standards that have been adopted as Irish standards. Thanks to the leadership skills of Martin and Finn, these standards have

been drafted by NSAI Technical Committees in association with representatives from Government departments and agencies, training providers, equipment manufacturers and suppliers, M&E consultants and, most importantly, time-served plumbers. The commitment of the various individuals involved should also be acknowledged as, without their selfless contribution over many years, this milestone would never have been achieved.

The SR 50 Series is made up of four complementary sections covering domestic plumbing systems. They are as follows:

SR 50-1:2021

Water-based heating systems in dwellings provides practical information and guidance on water-based central heating systems in permanent domestic dwellings. The Standard Recommendation was written to encourage designers and installers to ensure that central heating systems are not only designed and installed correctly, but are also

energy efficient and meet manufacturer's criteria. SR 50-1:2021 is complementary to the European Standards IS EN 12828, IS EN 12831 and IS EN 14336, which have been adopted as Irish Standards.

SR 50-2:2012

Thermal solar systems provides recommendations for the design, installation, commissioning and maintenance of solar water heating systems for domestic buildings.

SR 50-3:2021

Water supply for domestic use within dwellings and their curtilages sets out the requirements for the design, installation and commissioning of domestic cold-water and domestic hot-water supply systems in domestic dwellings. It is complementary to the IS EN 806 Series of European Standards which have been adopted as Irish Standards. It includes the relevant details from BS 8558:2015.

SR 50-4:2021

Heat pump systems in dwellings concentrates on the types of heat pump that are the most common to be installed in dwellings to provide space heating and/or domestic hot water. It gives guidelines for the design, installation, commissioning, and maintenance of heat pump systems with an effective rated output up to 70 kW in new and existing dwellings.

Replacing bad habits

The SR 50 Standards Recommendations include guidance and simplified methods that could replace bad habits. For example, a heating contractor might normally replace a boiler with a like-for-like model of the same power, say 18kW. Boilers installed in Ireland are traditionally oversized which leads to the boiler operating at a lesser efficiency than what it was designed to do.

Best practice is to look at the structure and any retrofit measures that may have been done and recalculate the boiler sizing. This can lead to a smaller boiler giving the same thermal comfort but with reduced running costs and less environmental impact. There are several phone apps and websites available that enable quick, easy and accurate boiler sizing.

The primary focus of this article is SR 50-1, which covers the requirements for water-based central heating systems used for space heating in dwellings; and SR 50-3, which covers the requirements for the conveyance of potable cold water for domestic hot and cold water from mains supply to the draw-off points within dwellings and its curtilages (the area of land attached to a dwelling).

"The SR 50-1:2021 and SR 50-3:2021 Standard Recommendations have been drafted in such a way that the reader should not have to reference or purchase additional Standards," says Finn. "They include the full process for installing plumbing and heating systems that can be used by a plumber or heating contractor for individual jobs, or by mechanical or electrical consultants for larger projects.

"As such, the SR 50 Standards Recommendations are intended to be used by all engineers, architects, surveyors, contractors, installers and inspection authorities involved in the supply, installation, operation and maintenance of plumbing and heating systems in buildings."

"In addition," says Martin, "the Standards Recommendations can be referenced in tender documents and contracts as being the standard to which works are carried out. They can also be used to confirm to a client the components and quality of materials that are required for a job. While voluntary, they nonetheless provide best practice criteria which, if adhered to, will deliver the best possible outcome in respect of system performance, energy efficiency, carbon reduction and best value for the client. It can also mean less call-backs for the installer.

"While the SR 50 Standards Recommendations were written primarily for plumbers, they can be used in many ways. They set a baseline for heating and water supply systems in domestic dwellings. Heating and plumbing contractors can use the Standards to support the inclusion of



Paul Martin, Chair, SR 50-1 with Peter O'Reilly, Chair, SR 50-3 Committee, Fergal Finn, Manager Standards, Innovation, Policy & Business Development, NSAI, and Alan Hogan, Managing Director, Sanbra Fyffe, who hosted the photoshoot.

equipment and components in their pricing, and to demonstrate compliance of their work to clients. Architects and building designers can use them as a Code of Practice in their work and as a specification to which installation works can be carried out to by subcontractors. The same applies to county councils and developers".

Last word to Finn: "Just as the use of IS 813 by gas installers and IS 10101 by electrical contractors is currently widespread in Ireland, success for the SR 50 Series would be that heating and plumbing designers, and installers, would use the standards in the same way, and in doing so, improve the performance, quality and safety of installations nationwide."

NB: Due to copyright agreements that NSAI is bound to, it is unable to make these standards available free of charge and is obliged to pay royalties to the various Standards Development Organisations involved. However, the price has been set at a nominal €55 for each of the four sections.

See <https://shop.standards.ie/> ■

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