
CREATING THE SUSTAINABILITY CULTURE



Cablofil discusses the importance of sustainability in the electrical industry and outlines his ideas for how the industry needs to evolve and work together to create a sustainability culture.

Sustainability is no longer a mere buzzword. The days when it was the preserve of PR spin doctors, keen to jump on the environmental bandwagon and tick a box for corporate responsibility are now, thankfully, long gone. Instead, legislation, saleability and a genuine recognition that we need to preserve resources, both now and in the future, mean that sustainability is increasingly built in to development projects, not just their marketing material. For the electrical installation industry, this means finding ways to futureproof installations so that materials are not wasted by large-scale refits every couple of years or so. It has also put a significant emphasis on the use of durable, flexible products that make the best use of raw materials whilst offering longevity.

The trouble is, sustainability means different things to different people and, as a result, many developments cut corners when it comes to sustainability because they don't apply the principles of using fewer resources and ensuring they last longer across the board.

The Future of Sustainability

For me, Sustainability is about making something that is fit for purpose now but is also built to last. An important element of adopting sustainability as a culture rather than a policy is that it needs to take account of the human element. Sustainability is not just about buildings and the materials used to create them; it's about people and communities. You can create a building that's as striking and as durable as you like, but if it doesn't serve its purpose, or it doesn't have the flexibility to adapt when its use or users need to change, then it cannot claim to be truly sustainable.

Let's take a school as an example. Many local authorities are committed to building sustainability into public buildings and challenge both architects and contractors to demonstrate their sustainable approach when tendering. So far so good. There are countless examples of schools up and down the country that have made excellent use of sustainable materials, have integral recycling and energy conservation features and are shining examples of sustainability for the students and communities that use them. But none of us can predict the future. Who would have guessed 20 years ago that by now there would be computer suites in every primary school and interactive white boards in all our secondary schools? That's why building in flexibility is so important. Schools may need to adapt to incorporate new technologies and the ability to adapt needs to be designed in at all levels. From our

area of expertise in cable management, specifying a system that can be changed quickly, and easily, without excessive waste or expense has to be the best long term plan to safeguard the school building against being left behind when technology moves on.

In a commercial setting, this imperative is even greater. The average building now changes occupier or even changes use every seven years. Ripping out an electrical installation and starting over is simply wasteful and contradicts the basic ethos of sustainability. With steel wire tray, the existing product can be re-used by reconfiguring the layout and adding new paths wherever they are needed, reducing waste and enabling the building to evolve.

Being More Resourceful

If safeguarding the future of a building is an important building block of sustainability, then we must see safeguarding the planet as its very foundations. And that means taking as little from the world's resources as you can, cutting down on the raw materials used and creating products from recycled materials or materials that can be re-used or recycled.



Here many of the industries that serve the construction sector have been working hard to reduce their environmental impact and ensure that the resources they use are renewable or offset. But while the use of timber and natural stone have come under scrutiny from clients, developers and the public at large, in the electrical industry, there seems to be more of a laissez faire attitude. It would seem that there's an assumption that there are no alternatives to using large amounts of steel and, therefore, the amount of raw materials used by this aspect of the build is not always challenged as part of a sustainable specification.

Again, it comes down to culture. Only by ensuring that all contractors and all their suppliers consider where they reduce the amount of raw materials used can we truly begin the journey towards sustainability. Minimising the use of raw materials has to be a key objective but it will only become an imperative if developers challenge contractors, contractors challenge sub contractors and subcontractors challenge suppliers.

Shift

Already we are starting to see a shift. Leading M&E contractor, NG Bailey, for example, has set out a 'Corporate Sustainability Pledge', outlining the six key areas in which it plans to put a sustainability culture at the heart of its business. Amongst these six areas are 'Working with Suppliers' and 'Lowering the Carbon Footprint', which includes using fewer natural resources. Their commitment shows a step in the right direction amongst the most forward looking, responsible companies, but how does that translate into hard evidence of a sustainability culture in the electrical sector?

As one of the suppliers that NG Bailey works with, we have some insight into what they expect. It's not just about providing sustainable technologies, but about reducing waste and reducing the impact of our logistics. They have published their commitment to delivering a more sustainable approach and we can demonstrate how our steel wire tray fits in with their philosophy.

Facts and figures

While true sustainability is about culture rather than box ticking it can be useful to weigh up the facts and figures. So if we consider cable management, for example, a 300mm wide wire tray weighs just 2.16 kg/m in contrast to the 4.72 kg/m of conventional steel perforated tray, making a steel wire tray system is 55% lighter than traditional systems. It's so much lighter because the wire mesh structure of the tray means that it is 90% free air and that means it uses much less steel than conventional tray. And yet, thanks to the tray's innovative design, it's also much stronger than conventional tray. In fact, the 140kg/m of 300m width steel wire tray typically has a load capacity 27% greater than conventional steel tray.

In sustainability terms the sum of these figures ticks lots of boxes. It uses fewer natural resources and the quality and durability of the installation means that it also lasts longer. What's more, greater load capacity often means that fewer rows of tray are required because more cabling can be contained in a single run and with fewer accessories required.

Designing in Sustainability

But it's not just about the hard facts, it's also about the way in which a product is used and the knock-on sustainability benefits that can bring. NG Bailey reference the impact of logistics in their Sustainability Pledge and it's clear that a product that uses smaller amounts of raw materials will also be lighter to transport and will therefore lower the impact of logistics and the carbon footprint on the development for which it's used.

Ease of use can also have a role to play in minimising waste. Steel wire tray, for example is supplied in straight lengths and can be cut easily to any length with bolt cutters, which means the team on site doesn't have to use electrical power to cut or weld the tray. Once they have cut the required length, they can bend the steel tray to fit tight angles and join pieces of tray together quickly and easily, minimising wastage and removing the need to order pre-manufactured components in advance for each bend. Following installation, the tray's open structure means that maintenance is much easier, helping to prolong the useful life of the installation.

Steel wire tray is just one illustration, but the principles are clear and can be carried through to all aspects of the industry. Ingenuity and simplicity of design can be the key to delivering sustainability benefits in a product and every supplier that takes that on board can help us take a step forward towards a more sustainability-focused industry. If we want to really create that sustainability culture, however, we have to return to the theme of putting people at the heart of sustainability. It's building principles like reducing waste and increasing flexibility into the use of a product that

really transforms it from an environmentally conscious product into a stepping stone to sustainability.

Human Interest

So if a sustainability culture involves the ways in which we use products as well development of the products themselves, how do we create buy-in for the principles of sustainability at all levels?

In many ways it's by demonstrating a top-down commitment to delivering a sustainable approach all the way through the delivery chain. Certainly, setting out that commitment as a clear and public policy as N G Bailey has done doesn't hurt in this regard. But product suppliers and main contractors don't always have full control over what actually happens on site, and reaching subcontractors and casual workers can be a challenge. Add to this the fact that the industry now relies heavily on migrant workers who may never even have heard of sustainability, much less understand their role in delivering it, and it's clear that communication has a vital role to play.

For the contractor, that responsibility to communicate is in the way that they brief on-site personnel and police the use of products. But the supplier can often help support key messages about minimising waste and equip workers to use materials responsibly by carrying out training. For example, at Cablofil we show installers how to cut and form the tray using bolt cutters and how to join lengths of tray.



It sounds simple - and it is! - but the results an hour-long training session can generate at the beginning of an installation contract are considerable. At Heathrow's T5, for example, where steel wire cable tray was used throughout the new terminal, on-site training helped ensure that the considerable installation teams could use the product quickly and efficiently without wastage. In all, we trained over 200 installers many of whom do not speak English as their first language but the training incorporated visual demonstrations of the product so that all those trained could be competent installers within less than an hour.

Investing that time in showing workers how to use the product effectively helped ensure dramatic savings in the number of components needed for the cable management installation at T5. A staggering 2.25 million fewer components were required as compared to the number of components that would have been needed for a conventional tray system for the same project, and this was achieved by engaging with the workforce to help them maximise the environmental advantages designed in to the product.

Training personnel on site is a quick win, and, as such should perhaps top the to do list on the people development side of sustainability. But if we are really going to create a sustainability culture within the electrical industry, then people development will take a lot longer and will require total commitment right across an organisation. It's a commitment that must come from board level, but it also needs buy-in from HR and from finance because it will involve training, recruitment of appropriately qualified personnel and ongoing communication.

A Team Effort

On site, the M&E contractor has its job to do, while the construction contractor gets on with its job and the architect comes along to inspect that everything is on track. This division of responsibilities works and allowing silos of expertise to operate independently gets the job done. But sustainability is an integrated concept which must work across different elements of a building from planning, through design, construction fit out and commissioning, so, away from site at least, these silos of expertise need to come together and co-operate. Yes, we need to create a culture of sustainability in the electrical industry and the genesis of that culture is already apparent. But for us to take it to the next level there must be greater integration across all construction-related sectors to share best practice and allow an integrated approach to moving sustainability from a nice-to-have to a must-have.