

Dyson fills the colour vacuum

Vacuum cleaner manufacturer Dyson produces colour accurate print to ISO standards around the world. Andy Knaggs hears about the journey to consistent colour and how Dyson keeps itself there.

Andy McCulloch has seen colour printing standards come and go, and mostly he has observed them without getting involved. ISO 12647 was different though. The acceptance of the international standard for offset litho printing and proofing reached a stage where, in January 2008, McCulloch felt confident enough to harness it for the print needs of Dyson, the vacuum cleaner and hand dryer manufacturer.

"I started looking at it in 2007 and actively changed things here in January 2008," says McCulloch, who is responsible for all colour reproduction across Dyson's print globally, as its graphics production quality manager. "The reason I held off for a while was that standards have come and gone in the past. This is the one that seems to have had a grip on the industry though, and rather than go down our own route it made sense to go down what seemed to be an industry standard that a lot of people were picking up on. I did not want to reinvent the wheel."

The fact that a significant number of print suppliers were moving in the same direction was obviously important, and McCulloch adds that such a development fitted in with Dyson's improvements in proofing. It produces its own proofs from production studios in Malmesbury in the UK, and in the US and Malaysia (where Dyson's vacuum cleaners and hand dryers are now manufactured). Across the three continents, McCulloch has established a proofing set up that produces exactly the same results, based on Epson inkjet printers and GMG software. Proofing is in fact the real key to the way Dyson is working with ISO standards.

"We have always been very tight on proofing at this end. In fact our proofing has tighter tolerances than the ISO standard stipulates. We work to an average of 2 and a maximum of 4 delta e, rather than 3 and 6 as the ISO standard says," he observes.



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The proof sets the standard. Get that right and any printer working to ISO 12647 standards can match it on press. Much is said about "printing by numbers" these days, and though Dyson is, to all intents and purposes, doing just that, McCulloch believes people shouldn't be in thrall to the numbers.

He continues: "The target is a visual match, as close as possible. Why visual? If our proof is correct and they visually match that, then it's correct. It doesn't matter if the numbers say its right but it doesn't look right: it's not correct. There's no point in running to the numbers even if it doesn't look correct. So I don't get

hung up on the numbers. It's about visual communication, and that's what we have to get a match on.

"But the numbers are a huge guide for everybody to get there with the least amount of hassle. You use the numbers to get in the ball park. It's got to help the press minders, and we find that if someone is running to the specifications, then any changes you have to make are just tweaks on the press. But I wouldn't reject a job because the numbers were not right. Our tolerances are tighter than ISO, but the tolerances are purely on our proof, and we keep that as tight as practical on three sites but we're not expecting our suppliers to do that."

Getting the proofing to the required standard has therefore been the most important piece of the ISO 12647 jigsaw for Dyson. When manufacturing of its products moved to Malaysia in 2002, the global limitations of the then proofing set up became apparent. McCulloch was sending Digital Cromalins produced to the Dupont Eurostandard from the UK to Malaysia for printers in the Far East to match. The results were not good. McCulloch takes up the story:

"With the high humidity in Malaysia the Cromalins were very quickly going off colour. It took us a while to find out what was happening and we worked very closely with Dupont on this. Basically, the proofs were just sweating. It was around this time that products were coming along that started to overtake Cromalin. I spent six months investigating different options in proofing."

The way that Dyson found the right proofing solution provides an interesting twist. "We have climate change chambers here, which are used to test plastics and materials for development of the vacuum cleaners. There were some raised eyebrows from the engineers, but it seemed a logical thing to do. We created the high humidity season of Malaysia in

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the chamber, put the proofs in there and timed how long it took for each one to go off.

"We found that the original Cromalin went off after about 20 minutes. The B2 Cromalin, which was new at the time, lasted for a couple of hours. It came down to a choice between ORIS and GMG, using the same print engines and materials, and we picked GMG."

Implementation was handled by GMG reseller Xelix, a company that McCulloch rates highly for its people, expertise and technical support. GMG ColorProof and ColorServer software drives the Epson engines and handles colour management through GMG's 4D conversion process. Regular calibration keeps the proofing engines in line, and D50 lighting conditions are a must for all viewing and matching of proofs.

Overall, says McCulloch, the proofing system is "working a treat" around the world. He adds: "The printer knows exactly what they will get from us, and what we expect of them, so it helps with relationships in the supply chain, and that's very important. We don't put ISO 12647 in the purchase order because I don't think that's practical, but if there's a problem we can look at the numbers and

Dyson's vacuum cleaners are renowned for innovation and quality and its print must live up to that

work it out. At least we know the target is clear and printable, and the more you can measure, the less subjective it is."

Dyson's print suppliers around the world are now required to be working to ISO 12647 standards, although globally there is some variance in adherence to such matters. US printers work to GRACoL G7 guidelines for instance, whereas in Europe Fogra is universally accepted. In other parts of the world printers have not yet grasped control over quality in the same way as much of Europe has. McCulloch has no problem with these kinds of issues, because the target proof is already verified as hitting the standard. Each printer just has to match that, and they will be audited by Dyson in any case.

He says the introduction of the ISO colour-managed workflow has reduced the need for press passing however. The supplier list is small, and if a new one comes on to the list the first few jobs will be press passed. After that, assuming the printer has shown its mettle, Dyson trusts the printer to achieve what is expected. McCulloch's job is to establish the supplier list based on their quality standards and other criteria.

The print requirements stretch from labels to POS, and he looks to have three listed suppliers for every print discipline, so each job should go to at least three printers to be quoted on. The actual buying of individual print jobs is handled by a separate team of print buyers within the company, using McCulloch's list. However, he adds, "we know that quality is not an issue because if it were, they would not be on the list in the first place". Cost and ability to meet the deadline therefore decide the issue.

He still values the expertise that a good press minder adds, and says he makes a point of walking around the factory floor of any print supplier being considered, where he talks to the minders, checks completed jobs on pallets for use of colour bars, and observes how the minders operate. Far more than sitting in the salesman's office, this is where "you get a feel for the ethos of a company and how it's run", says McCulloch.

UK printers stand up well around



the world in quality terms, he feels, and the planned certification of printers meeting the standard is a development he welcomes. The average printer is now "far better than a few years ago" McCulloch continues. "I have to say that I think ISO 12647 has helped that."

So the dream is coming to fruition. The print is of a higher consistent quality, and the supply chain is working well. McCulloch says implementing ISO 12647 has actually been easier than he anticipated, although it is vital that the right combination of approved materials and technology is used in proofing. It's also important that the standard is based on spectral LaB values, and not ink densities, as older standards did.

"It wasn't fool proof. You could get a huge variance and still hit the numbers, which was why I didn't go for it before," he says. "Nowadays we have things like handheld spectrophotometers. I use an X-Rite Spectro Eye. You set it to ISO 12647, select the right paper type and it's all pre-set. It will tell you what colour you have, how close you are to the target and what to change to get there. And I can take that with me anywhere in the world."



dyson