

Printing on recycled paper proves problem-free



Plant Managers' Journal (PMJ) is a glossy business-to-business (B2B) magazine produced every month by Reed Business Information, one of the world's leading B2B publishers. Designed to look and feel business-like, PMJ includes a large number of high-quality, full-page adverts which often incorporate vibrant colours. The magazine has a portrait format (29.7cm x 21cm) and each issue is usually around 48 pages long, plus a four-page cover.

PMJ is printed using a sheet-fed offset process, normally on 70gsm MyRex Gloss, a lightweight coated (LWC) paper manufactured in Germany. Reed Business Information's paper merchant rebrands this product as Mahler paper.

"The recycled paper was whiter and brighter than the virgin paper"

Key Facts

- The publisher of Plant Managers' Journal undertook a trial print run using paper incorporating 31.6% recovered fibre.
- No difficulties were experienced during the printing or the finishing process.
- A consumer panel noticed very little difference between samples of the magazine printed on the recycled paper and samples produced using virgin paper.
- The publisher concluded that, although not ideally suited to this publication's specific needs, the recycled paper compared well in many ways with the virgin stock normally used.

Motivation to 'go recycled'

As a large, multi-faceted organisation, Reed Business Information pursues a diverse Corporate Social Responsibility (CSR) policy. Although keen to explore ways of implementing this policy in the field of magazine publishing, the company considers it imperative that any initiatives in this area do not jeopardise advertising revenue in any way, in view of the pressures of operating in today's B2B magazine market.

Reed Business Information therefore recognised the environmental benefits of printing PMJ on recycled-content paper, but also took the view that any change in paper must not materially alter the magazine or the overall economics of production. Specifically, the company is committed to maintaining PMJ's 'quality' feel as far as possible and to ensuring that excellent reproduction of adverts continues to be achieved.

Before proceeding with a trial print run of the magazine on recycled-content paper, Reed Business Information highlighted a range of stringent criteria that the paper used in the trial needed to meet. As well as addressing issues such as whiteness, gloss and opacity,

“In weight and show-through, the paper was an excellent match with the virgin stock”

Marianne Bushell, Reed Business Information

the selection process focused on identifying a comparably priced paper free from debris or obvious particles – adverts in PMJ tend to contain large areas of fairly even tints or vignettted backgrounds which would be significantly degraded by the specks that appear in some recycled papers.

The process involved

The paper selected for the trial was 70gsm Norcote Top H. This contains 31.6% recovered fibre, plus 41.6% mechanical pulp and 26.8% chemical pulp. Its key characteristics include 91% ISO brightness, 63% TAPPI gloss and 91% ISO opacity. (ISO = International Standards Organisation.)

To compare the paper with the 100% virgin paper normally used, a comprehensive series of tests were conducted which assessed the two papers' respective whiteness, brightness and gloss, and also their colour space L*, a* and b* (covering luminance and colour-opponent dimensions). These tests showed Norcote Top H to be significantly bluer and whiter, and with slightly less gloss, than the Mahler paper.

The print trial was carried out by print contractor Williams Press at their facilities in Maidenhead. This contractor employed a 10-unit sheet-fed Heidelberg press using standard process-colour quickset inks at normal density settings. Although usually available only in reels, the paper was sheeted for this trial printing. Operating at a speed of 7000 impressions per hour, with eight of its units used, the press produced samples of PMJ in 16-page sections.

Issues arising

Throughout the trial, the recycled-content paper exhibited good 'runnability' and dimensional stability. No special register or other adjustments were necessary, even though the process involved running a fairly lightweight paper in sheet form through eight printing units. Colour adjustments did have to be made during the trial, but these were not due to any difficulties with the recycled-content paper.

In terms of finishing performance, there proved to be absolutely no difference between the recycled paper and the virgin paper normally used to produce PMJ.

Results and perceptions

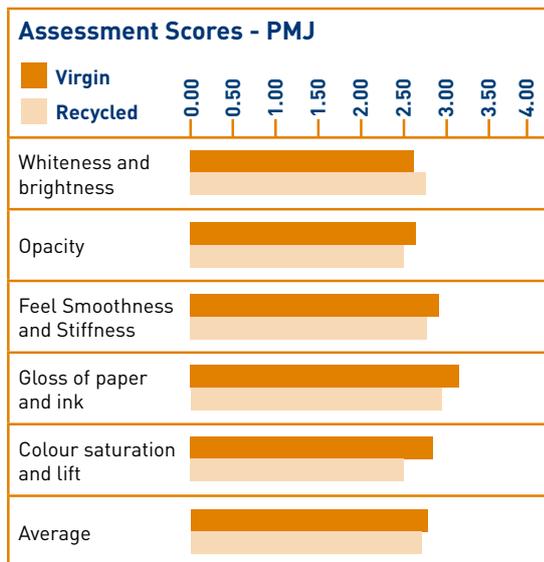
The publishing team thought that, generally speaking, the 31.6% recycled-content paper was an excellent match with the 100% virgin paper in terms of both weight and show-through. They also considered it slightly superior in brightness, while observing that it felt slightly rougher than the normal stock. In addition, they thought the recycled paper was not quite as good with regard to gloss and colour saturation (especially of black). Overall, Reed Business Information took the view that the paper's viability as an alternative to the current stock would be dependent on it (i) achieving price parity and (ii) being able to deliver comparable colour saturation.

A panel of consumers, comprised of active magazine purchasers and retailers, assessed some of the trial samples alongside 'regular' samples printed on virgin paper, without knowing which were which. They provided marks out of four on both papers' suitability for this type of publication, as well as on their respective overall merits and specific attributes (whiteness and brightness; opacity; feel, smoothness and stiffness; gloss of paper and ink; and colour saturation and lift).



“There was no difference whatsoever in terms of the paper’s printing and finishing performance”

**Alan Touchard,
Williams Press**



The members of the panel expressed a marginal preference for the version of PMJ printed on virgin paper. Several stated that they could not see any real difference, while a number commented on the lightweight nature of both the virgin and the recycled papers. Although the virgin paper samples scored slightly higher for opacity, thickness and gloss, the recycled paper had the edge in terms of whiteness and brightness. The following examples are typical of the individual comments made about the two types of paper:

- “not much difference”;
- “[the virgin paper] seems more transparent”;
- “[the recycled paper] is more flimsy”;
- “[the virgin and recycled papers] are OK for a trade magazine”.

As for overall impression, out of a possible ten, the consumer panel gave the recycled paper a score of 7.1 and the virgin paper a score of 7.4. With a score of 7.5 defined before the exercise as equivalent to a ‘good overall impression’, this meant that, although the panel judged the recycled paper to be slightly inferior to the virgin paper, they still rated it quite highly.

Conclusions

The consumer panel’s generally positive perception of the 31.6% recycled-content paper used in this print trial prompted the conclusion that only a very small proportion of PMJ’s readership would notice if the magazine switched to recycled paper.

The issues of gloss and colour saturation, and their implications for image quality, led to Reed Business Information deciding that switching PMJ permanently to the recycled paper would not be feasible. Key to this decision was the paper’s potential impact on the full-colour adverts included in PMJ.

Summary

However, the publishing team emphasised that the recycled paper was, in a number of respects, an extremely good match for the virgin stock. With consumers unable to spot any major difference in quality, magazine publishers could usefully investigate the potential for using the paper in appropriate publications.

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