



delivery counteracts the moisture absorbed from contact with the offset blanket. Thus, when the stock is re-run for extra colours, its moisture content—and dimensions—are essentially unchanged.

Another good rule is to cover piles of paper awaiting re-run with plastic sheeting or a similar moisture barrier. Many printing supply companies offer a variety of plastic skid covers in standard sizes.

For letterpress printing and most paper converting operations, RH of the paper should be the same as that of the room.

Moisture Tolerances. As a rule of thumb, it can be said that for close register in separate operations on single and 2-colour offset presses, it is safe to print paper that tests from 3 per cent below to 3 per cent above pressroom RH and from 5 per cent below to 5 per cent above for single passes on 4-colour presses. Beyond these limits, the paper should be brought to balance with pressroom humidity.

But . . . it should be remembered that for complete dimensional stability, even conditioning of paper may not be enough. Equilibrium with tomorrow's atmosphere does not mean the same moisture content as equilibrium with today's. Moreover, as we saw earlier, the actual moisture content of the paper lags behind equilibrium. In other words, even the same RH tomorrow as today does not insure dimensional stability if there has been a significant change in the meantime. Summer or winter, the best assurance of dimensional stability is day-to-day uniformity of pressroom RH.

The conclusion we may draw from these facts is that proper conditioning of paper will alleviate some of the problems caused by fluctuating RH, but nothing short of humidity control in the pressroom itself can eliminate them.

The Case for Air Conditioning

The production and quality control problems caused by fluctuating humidity are so costly in lost time and lost business that today more and more printers are investing in some method of humidity control. There are two effective methods of controlling pressroom humidity. One is air conditioning; the other is humidification. What are the relative merits of each?

Air Conditioning—ideal but costly. The term 'air conditioning' has various meanings. Many of us think of an air conditioner as merely a device to lower indoor temperatures. And that is all that many small units of the window type are designed to do. But, depending on the type of equipment, air conditioning may include a great deal more than this. It may also provide heat, control relative humidity, ventilate and filter the air.

It is necessary, therefore, to define the functions we want from air conditioning if we are to discuss it intelligently. We are talking here about central air conditioning equipment which provides automatic control of both temperature and RH.

While fluctuations in RH account for most of the problems we have described, temperature changes in the pressroom cannot be ignored. For one thing, changes in temperature have an immediate effect on RH, as the following example will illustrate.