

chance to correct misregister by moving individual pages or cuts.

Temperature Conditioning

Sheet paper should be brought to pressroom temperature before being unwrapped in the pressroom. Having the paper at the proper relative humidity is not enough.

Sheet paper shipped in freight cars or trucks may arrive at the printing plant considerably colder or warmer than the pressroom atmosphere, depending on the season. If unwrapped immediately, cold paper cools the air surrounding it. Since cooling increases the relative humidity of the surrounding air, the unprotected edges of the paper take on moisture. Skids of sheet paper quickly become wavy. Moisture can actually condense on the edges of very cold paper as it does on a glass of ice water on a warm summer day. Table IV shows how relative humidity changes with temperature, although the absolute humidity (amount of moisture in the air) stays the same.

Temperature, °F	Relative Humidity, %
100	24
95	28
90	32
85	38
80	45
75	52
70	62
65	74
60	88
56	100

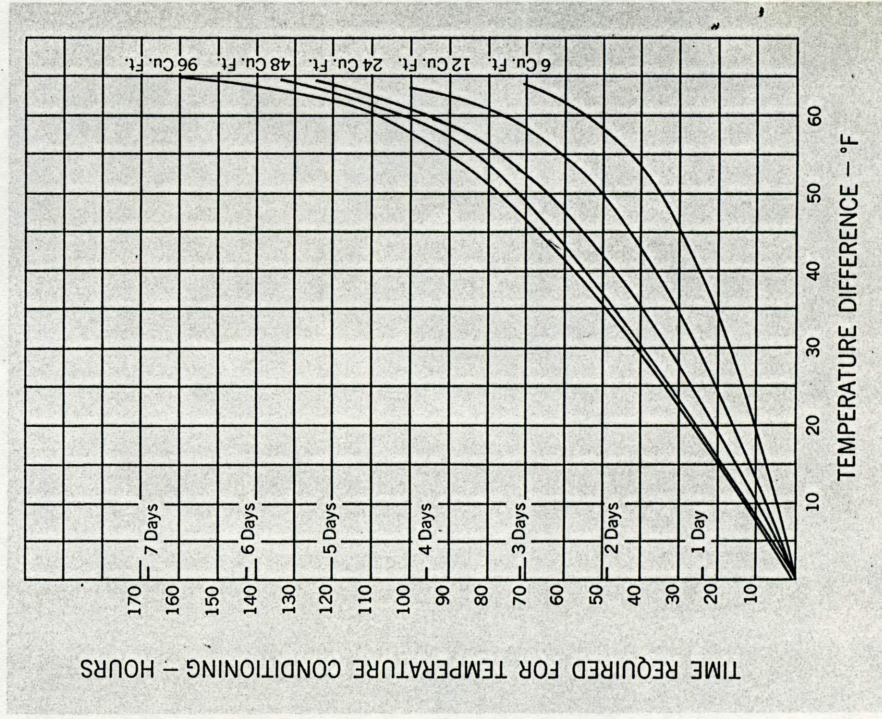
Table IV: Effect of changes in temperature on relative humidity when absolute humidity remains constant.

Example: A pressroom is air conditioned at 45 per cent RH and 80°F. At the end of a day the air conditioning and heat are turned off, and the room is closed up overnight. The next morning the pressroom temperature is found to be 65°F. Assuming that there was no air leakage, the total amount of moisture vapor in the room would remain the same, but the relative humidity would have risen to 74 per cent.

Waviness caused by unwrapping skids of cold paper in a warm pressroom cannot be removed by ordinary paper-conditioning methods; the moisture content in the edges goes higher than equilibrium with the pressroom atmosphere. When such paper is hung, the edges and interior of the sheets approach equilibrium from different directions. They cannot come to the same equilibrium moisture content (see Chapter 2, page 23), and at least some of the waviness will remain.

Just reverse happens if paper is warmer than the pressroom atmosphere when it is unwrapped. Such paper warms the surrounding air and lowers its relative humidity. The edges thus lose moisture and shrink. However, tight edges resulting from warm paper are more easily removed by paper conditioning and cause less trouble than wavy edges resulting from cold paper.

The foregoing show the importance of "temperature conditioning," bringing the paper to pressroom temperature before unwrapping it. When wrapped skids are brought into the pressroom, the bands should be removed. Of course, removing the bands is not practical if the paper is stored in tiers. The length of time it takes to temperature-condition paper depends on the size or volume of the packages, since large skids take longer than do small skids or cartons.



Don't be misled

Fig 36