In many businesses, there are terms used only in that business. Often, we take for granted the actual meaning of the terminology used. In the corrugated box business, in the United States linerboard and medium are defined in terms of basis weight, such as 33 pound. What this means is the liner weighs 33 pounds per 1000 square feet. A stack of liner, in sheets 12 inches by 12 inches, which is 1 square foot, with a quantity of 1,000 sheets would weigh 33 pounds.

For liner that is exported, the basis weight is measured in Grams per Square Meter or GSM. Initially, the metric system may be confusing, but once learned, it is much simpler and certainly more logical. Occasionally a roll may be shipped into your plant with export markings. A quick conversion factor is to divide the weight in GSM by 4.8, and you get the weight in pounds per MSF. For example, 205 GSM is close to 42 pound.

When making corrugated, most times, we want to run with the lowest basis weight that will meet the require specifications. An important factor is yield, or how many square feet of corrugated a ton of a specific basis weight of paper is going to produce.

To get the square feet in a ton of a particular basis weight, divide 2,000, the number of pounds in a ton, by the basis weight. For example to see how many square feet a ton of 33 pound liner has, you divide 2,000 by 33. The answer is 60.61. What does this number mean? This means 60.61 MSF. In square feet, there are 61,610 in each ton of 33 pound liner. But this is a big number, so we divide by 1,000 to convert square feet into MSF. MSF stands for 1000 square feet. M is the Roman numeral for 1,000.

To help out and to match up with the roll tallies, each roll tag should have the lineal feet and square feet on the roll. But we don’t have each roll label at our desk.

We have sold both 32 ECT and 200 pound mullen as sheets and finished boxes. And perhaps you have tested a box for a potential customer with a 200 pound BMC printed, but the basis weight test shows 35 pound liner. 42 pound liner has 47.62 MSF per ton, and 35 pound has 57.14 MSF per ton. This is one of the reasons why linerboard was reengineered some time ago to allow for increased stacking strength. By using 35 pound liner, engineered for stacking strength, we were able to reduce the fiber in the box, increase the yield per ton and save money.

Current price for 42 pound liner is $530. Liner pricing in industry publications is usually in tons. Invoices received by the accounts payable department in our plants are in $/MSF. With a $550 per ton price for 42 pound, the MSF price is $11.13 or $530/47.62. The published price for 35 pound liner is $555, so the MSF price is $9.71 or $555/57.14. So while 35 pound cost more per ton, it is actually cheaper per MSF to run.

The same is true for medium. We have all used both 23 pound and 26 pound medium. The current industry publication price of 26 pound medium, semi chem, not recycled, is $480 per ton. The price on 23 pound is $500 per ton. This would be an MSF price of $6.24 for the 26 pound and $5.75 per MSF for the 23 pound.

Most owners of corrugated operations know most if not all of this information. The question should be, do the people on the floor of the plant understand this?