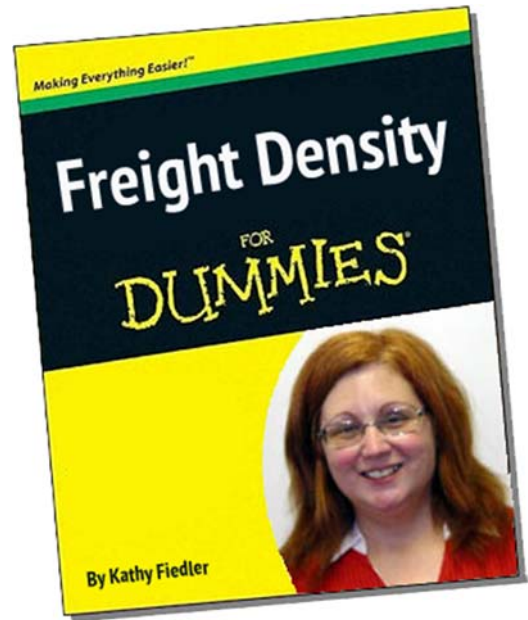


DENSITY FOR DUMMIES

Although most newbies find the National Motor Freight Classification Tariff (NMFC) intimidating, they don't really panic until the first few times they need to calculate the density to determine the class. After working with the NMFC for almost more years than I care to admit, I think I can give you a few tips that will strip the mystery from density.



TIP #1

- One (1) cubic foot = 1728 cubic inches.
- Multiply 12" x 12" x 12" to come up with 1728.

TIP #2

- Providing the dimensions in Length (L) by Width (W) x Height (H) order every time will ensure that a non-stackable skid will not be listed as stackable on your bill of lading. (BOL)

TIP #3

- A standard stackable LTL skid measures 48" (L) x 40" (W) x 48" (H).
- If you multiply 48 x 40 x 48 you come up with 92,160 cubic inches.
- If you divide 92,160 by 1728 you come up with 53.3 cubic feet.
- A standard skid will always occupy 53.3 cubic feet. You will never have to figure the cube of a standard sized skid again!

EXAMPLE #1

- You are shipping a standard sized skid of air filters that weighs 368 pounds.
- You already know that the skid occupies 53.3 cubic feet.
- Divide the weight by the number of cubic feet to get the density in pounds per cubic foot (PCF).
- 368 pounds divided by 53.3 cubic feet equals a density of 6.9 PCF. Therefore, the class for this freight would be 125 per NMFC Item 69100 Sub-05, which is applicable for air filters with a density of at least 6 but less than 8 pounds per cubic foot.

EXAMPLE #2

- If you are shipping multiple skids with different dimensions and weights, the process is the same. It will just take you a minute longer.
- You are shipping two skids of wiping cloths.
- The first one is a standard sized skid that weighs 535 pounds.
- The second is a skid that measures 48" (L) x 40" (W) x 72" (H) and weighs 1775 pounds.
- The first skid has density of 10.0 PCF. (535 pounds divided by 53.3 cubic feet equals 10.0 PCF.)
- That means that the class for the first skid would be 100 per NMFC Item 49965 Sub-01.

- The second skid has a density of 22.2 cubic feet.
- The skid occupies 80 cubic feet. $48 \times 40 \times 72$ equals 138,240 cubic inches. 138240 divided by 1728 equals 80 cubic feet. 1775 pounds divided by 80 cubic feet equals a density of 22.2 PCF. This would be class 55 per NMFC Item 49965 Sub-01 which applies when the density is 20 PCF or greater.
- Each skid would be listed on the BOL with the correct class and weight, and that is how the rate would be determined.

EXAMPLE #3

- If a logistics specialist is asked to determine the class for a shipment that consists of three standard sized skids with a combined total weight of 2700 pounds, they are going to make the assumption that the skids are identical.
- To figure the density, divide 2700 pounds by 3 to get a weight of 900 pounds per skid. 900 pounds divided by 53.3 cubic feet equals a density of 16.9 pounds.
- That would make the class 70 per NMFC Item 156600 Sub-09, which is applicable for plastic articles with a density of 15 PCF or greater.
- **WARNING! If the skids are all the same size but not the same weight the class could be higher than 70 for all three skids, and could result in balance due billing. The more information you are given to research a class, the more accurate your quoted price will be.**

EXAMPLE #4

- You are shipping a bundle of decorative aluminum rods that are packaged in a bundle that is 8 foot long and 2 feet in diameter and weighs 415 pounds.
- To calculate the density, you square the diameter and multiply it by the length. This is easy, as the dimensions are already in feet so you multiply 2 by 2 by 8 which equals 32 cubic feet.
- 415 pounds divided by 32 cubic feet equals a density of 12.9 PCF. The class for this freight is 85 per NMFC Item 13120 Sub-09, which is applicable for aluminum articles with a density of 12 but less than 15 PCF.

TIP #4

- Don't panic if the weights and dimensions are given to you in metric rather than English system numbers! There are several very easy to use conversion sites available on the web. My favorite is www.metricconversion.us.

TIP #5

- If you are completely stumped about the class for a particular shipment, please contact Logistics Plus at 866-335-6273 and one of our logistics specialists will be glad to help you.

If you have any other questions, feel free to contact me, Kathy Fiedler, at 814-461-7607 or Kathy.Fiedler@logisticsplus.net.

Kathy Fiedler is an operations administrator for Logistics Plus based in Erie, PA.