

THE COMPLETE GUIDE
TO FREIGHT CLASS

FREIGHT CLASS

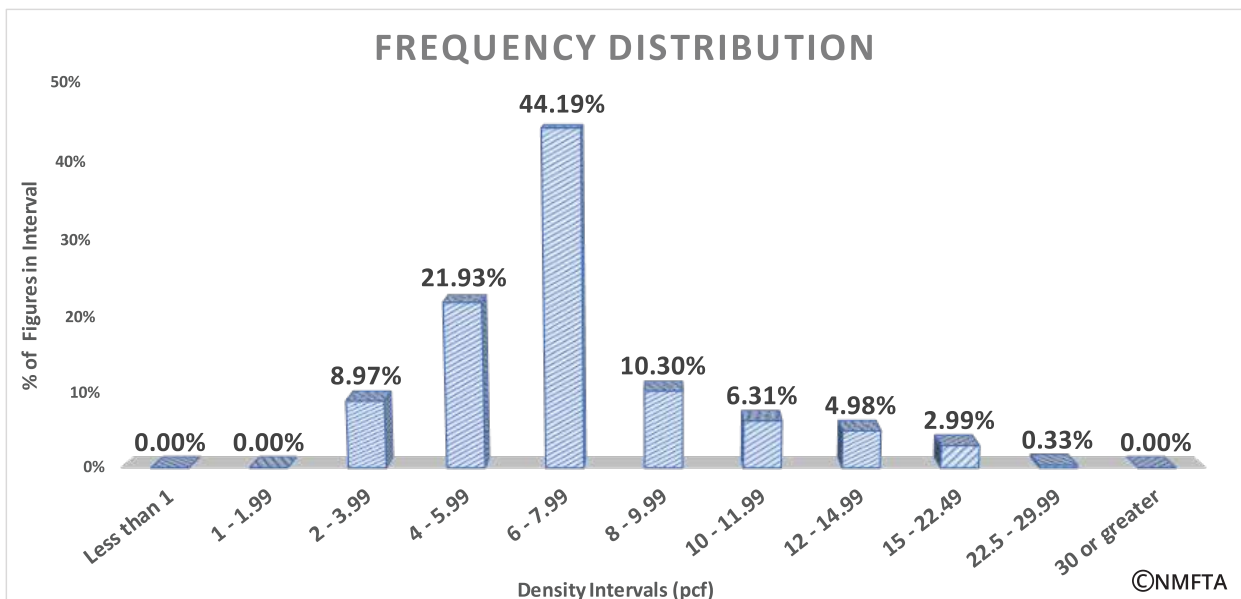
The National Motor Freight Classification®, or NMFC® for short, is a system applied to cargo to allow the LTL industry to quickly organize, price, and understand shipments. The rating is known industry wide as freight class. There are 18 classes, ranging from Class 50 to Class 500 with an *example table on page 3*. These classes are determined by four characteristics:

1. Density
2. Handling
3. Stow-ability
4. Liability / Value



Freight Density

Freight density is the ratio of weight to volume expressed in per cubic foot (pcf) measurements. Shipments that take up a lot of space for their weight will be in a higher freight class and generally cost more to ship. Shipments that are heavy and compact will be in a lower freight class and generally less expensive to ship. The Commodity Classification Standards Board, or CCSB, samples numerous shipments for both the pcf density and the frequency of that particular density being shipped. For example, night lights packaged in boxes range in density between 2.17 to 22.50 pcf, with an average density of 7.09 pcf according to CCSB research. As you can see from the graph below the vast majority of densities were between 4 and 10 pcf. *See example table on page 4.*



The classification example, night lights, and specific data in this section including density measurements, frequency distribution, and specific findings are courtesy of the ©NMFTA Commodity Classification Standards Board and used with their permission. Source: ©NMFTA - Commodity Classification Standards Board - Docket 2015-2 Sbj. 10, Addendum



Handling

Commodities that require special handling will typically have higher freight classes. Handling takes into account how normal the typical handling requirements are for a particular good. Goods that are tendered into typical packages such as boxes or crates loaded onto pallet skids, aren't fragile or drop sensitive, will get lower freight class ratings compared to more difficult shipments. For our example above, night lights are tendered into boxes and placed onto pallets.

Stow-ability

Stow-ability is measured by how easily other freight can be stored adjacent or on top of the packaged goods. Items that are very durable or packaged in rigid load-bearing containers will earn lower freight class ratings than those that cannot be sacked or otherwise prohibit additional capacity from being utilized. Our example of night lights, when tendered in boxes, creates a flat load-bearing surface for other freight to be sacked onto.

Liability

Liability is a measurement of risk. Risk typically involves shipment value (expressed per pound), susceptibility to damage, and the associated claim rates reported by carriers for that particular good. Additional risk factors include commodities that are perishable, hazardous, or unusually susceptible to theft. Overall, all carriers reported zero claims with night lights.

Freight Class - *Subject to Change*

The CCSB decided to change the freight class of night lights from 85 to 125. While there were zero claims and no significant stow-ability or handling issues, the CCSB decided to make the change based on their analysis of shipment density.

(CCSB policy calls for establishing or amending classification provisions to reflect a commodity's known transportation characteristics. Information of record indicates that night-lights range in density from 2.17 to 22.50 pcf, with an average density of 7.09 pcf, and no unusual or significant handling, stowability or liability characteristics. As shown in the frequency distribution above, the preponderance of density figures are concentrated within a narrow range around the overall average. An average density of 7.09 pcf is generally associated with a class 125 under CCSB density guidelines, which call for a minimum average density of 7 pcf. This proposal would assign item 109880 class 125 in lieu of the current class 85.)

Source: ©NMFTA - CCSB Docket 2015-2, Subject 10 – Analysis (with Addendum Changes)



Examples of Freight Class for Various Goods

Freight Class	Example Shipments	Weight Range/Cubic Foot
50	Nuts, bolts, steel rods	More than 50 LBS
55	Hardwood flooring, paint	35-50 LBS
60	Ceramic tiles, bottle liquids	30-35 LBS
65	Car parts, boxes of books	22.5-30 LBS
70	Food items, boxed paper	15-22.5 LBS
77.5	Tires, bathroom fixtures	13.5-15 LBS
85	Engines, pharmaceuticals	12-13.5 LBS
92.5	Computers, monitors	10.5-12 LBS
100	Hides, car & boat covers	9-10.5 LBS
110	Cabinets, table drill presses	8-9 LBS
125	Toasters, blenders	7-8 LBS
150	Sheet metal, bookcases	6-7 LBS
175	Clothing, stuffed furniture	5-6 LBS
200	Aluminum parts, mattresses	4-5 LBS
250	Televisions, box springs	3-4 LBS
300	Wood cabinets, tables	2-3 LBS
400	Deer antlers, light fixtures	1-2 LBS
500	Ping pong balls, bags of gold dust	Less than 1 LB

Note: The examples above are only for conceptual understanding. Freight class varies significantly depending on the specifics of shipments. Packaging, valuations, and per-shipment density all affect the freight class of items. The reasons for the classification are the expressed opinion of Choptank, and not the CCSB.





Periodically, the NMFTA will update and rework these freight classes to keep up with industry changes. One such change went into effect in 2017, and has adjusted the NMFC class breakdowns on several categories of freight.

The most significant change is seen in the categories of LTL freight that are classed according to a shipment's density. Commodities such as Plastic Articles (15660), Wire Goods (198080), and Clothing (49880) are affected by this freight class update in addition to 138 other density-based freight classes.

The new 11-tier system will provide a lower freight class for LTL shipments that are VERY dense (over 22.5 lbs per cubic foot).

The other change affects mid-ranged LTL freight with a class of 4-6 pounds/cubic foot previously set at class 150. These shipments will be increasing to an updated class 175. Illustrated below is the adjusted 11-tier classification system that will be replacing the former 9-tier model. *The revised classes have been italicized.*

DENSITY TABLE & CLASS BREAKDOWN

Freight Class	Weight Per Cubic Feet
400	SUB 1 - Less than 1pb per cubic feet
300	SUB 2 -1 but less than 2
250	SUB 3 - 2 but less than 4
<i>175</i>	<i>SUB 4 - 4 but less than 6</i>
125	SUB 5 - 6 but less than 8
100	SUB 6 - 8 but less than 10
92.5	SUB 7 - 10 but less than 12
85	SUB 8 - 12 but less than 15
70	SUB 9 - 15 but less than 22.5
<i>65</i>	<i>SUB 10 - 22.5 but less than 30</i>
<i>60</i>	<i>SUB 11 - ≥ 30lbs. per cubic foot</i>

Note: The higher the class number, the higher the cost.



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