A Logistics Guide to
Understanding LTL Freight Class

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What is Freight Class?

LTL shipments are defined by a class, depending on the nature of the product. This Freight Classification plays a prominent role in calculating how much the carrier will charge you for transporting it. Choosing the wrong Freight Class could waste money, time, resources, and delay shipments. It is important to classify a shipment correctly.

There are 18 different freight classes defined by the National Motor Freight Traffic Association (NMFTA).

The higher the class, the higher the rate for every one hundred pounds shipped.

Minimum Average Density (pounds per cubic foot)	Maximum Average Value Per Pound	Freight Class
50	$ 1.25	50
35	$ 2.50	55
30	$ 3.80	60
22.5	$ 6.30	65
15	$ 9.50	70
13.5	$ 12.65	77.5
12	$ 19.00	85
10.5	$ 25.30	92.5
9	$ 31.65	100
8	$ 34.80	110
7	$ 39.55	125
6	$ 47.50	150
5	$ 55.45	175
4	$ 63.35	200
3	$ 79.15	250
2	$ 95.00	300
1	$ 126.65	400
<1	$ 158.35	500

How to locate Freight Class

1. Most transportation management systems have built-in freight class estimators.
2. If possible, contact the manufacturer of the product. The manufacturer will know the freight class of their own products.
3. Official freight classes are listed by the National Motor Freight Traffic Association and can be viewed in their publication NMFC, or National Motor Freight Classification tariff.

Factors that Determine Freight Class

1. **Density**: The density is the space the item occupies in relation to its weight. The density is calculated by dividing the weight of the item in pounds by its volume in cubic feet. Your product's volume in cubic feet is Length x Width x Height/1,728, where all dimensions are measured in inches. The density of your item = Weight/Volume, where Weight is measured in pounds and Volume is measured in cubic feet.

2. **Stow-ability**: Most freight stows well in trucks, trains and boats, but some articles are regulated by the government or carrier policies. Some items cannot be loaded together. Hazardous materials are transported in specific manners. Excessive weight, length or protrusions can make freight impossible to load with other freight. The absence of load-bearing surfaces makes freight impossible to stack. A quantifiable stow-ability classification represents the difficulty in loading and carrying these items.

3. **Handling**: Most freight is loaded with mechanical equipment and poses no handling difficulties, but some freight, due to weight, shape, fragility, or hazardous properties, requires special attention. Therefore, a classification that represents ease or difficulty of loading and carrying the freight is assigned to the items.

4. **Liability**: Liability is the probability of freight theft or damage, or damage caused to adjacent freight. Perishable cargo or cargo prone to spontaneous combustion or explosion is classified based on liability and assigned a value per pound, which is a fraction of the carrier's liability. When classification is based on liability, density must also be considered.