



Calculating a Weight or Measure (W/M) rate

When to use a W/M rate

When you do not have enough cargo to fully use all the space or physical weight limitations of an entire ocean container, you have what is called less-than-containerload (LCL) cargo. If your cargo is too large to fit inside any type of ocean container, you have what is called breakbulk ocean cargo. Either way, the cost of the "space" your cargo will utilize inside a consolidated ocean container or loose on a breakbulk ocean vessel compared to cost associated with the physical weight of your cargo is used in calculating ocean freight cost. Most LCL freight cost is based on the higher of 1,000 kilos or 1 cubic meter and referred to as weight or measure (W/M) metric.

What is a cubic meter?

One cubic meter is a considerably large volume for your ocean freight shipment. A cubic meter is a measurement of volume your ocean freight shipment takes and is equal to space of one meter wide, one meter long, and one meter high.

- ⇒ One metric meter = approximately 3.28 metric feet
- ⇒ ONE CUBIC METER = approximately 35 CUBIC FEET
- ⇒ A cubic meter is 1 meter long by 1 meter wide by 1 meter high (or 3.28 feet long by 3.28 feet wide by 3.28 feet high)
- ⇒ $1\text{m} * 1\text{m} * 1\text{m} = 1 \text{ CUBIC METER}$
- ⇒ $3.28\text{ft} * 3.28\text{ft} * 3.28\text{ft} = 35 \text{ CUBIC FEET} = 1 \text{ CUBIC METER}$
- ⇒ Technically cubic meter could be any combination of lengths as long as all three dimensions multiplied together equals 1.
- ⇒ $0.5\text{m} * 0.5\text{m} * 4\text{m} = 1 \text{ CUBIC METER}$
- ⇒ $5\text{ft} * 7\text{ft} * 1\text{ft} = 35 \text{ CUBIC FEET} = 1 \text{ CUBIC METER}$
- ⇒ Here is a picture of one cubic meter:



How to calculate a W/M rate

Commonly used formulas

- ⇒ $L \times W \times H \times \# \text{ of pieces divided by } 1728 = \text{Cubic Feet}$
- ⇒ $\text{Cubic Feet divided by } 35.314 = \text{Cubic Meters}$
- ⇒ $\text{Pieces} \times \text{Weight/Piece} = \text{Weight in Pounds}$
- ⇒ $\text{Weight in Pounds divided by } 2.2046 = \text{Weight in Kilos}$

Example 1

- ⇒ Nine pallets, each 150kgs and 122cm x 101.5cm x 127cm (English Standard Measure, each 330.7lbs and 48in x 40in x 50in)
- ⇒ $9 \text{ pallets} \times 122\text{cm} \times 101.5\text{cm} \times 127\text{cm} / 1,000,000 \text{ cubic centimeters} = \mathbf{14.15 \text{ cubic meters}}$
- Or
- ⇒ $9 \text{ pallets} \times 48\text{in} \times 40\text{in} \times 50\text{in} = \text{cubic inches} / 1,728 = \text{cubic feet} / 35.314 = \mathbf{14.15 \text{ cubic meters}}$
- ⇒ The physical weight of this shipment is 9 pallets x 150 kilos = 1,350 physical kilos. For the volume of this cargo not to exceed the physical weight, the physical weight would need to be at least 14,150 kilos.
- ⇒ Since this is not the case, **the ocean freight would be calculated based on 14.15 cubic meters.**

Example 2

- ⇒ Let's imagine a shipment of 10 boxes of a uniform shape of 40" x 40" x 40" and a uniform weight of 200 pounds each. The W/M rate is \$80.00. Now, let's calculate the actual charge for this shipment.
- ⇒ When you see W/M, it means weight or measure (whichever is greater). For LCL Ocean, Weight is 1000KG increments and Measure is CBM.
- ⇒ In our example, we would have $10 \times 40 \times 40 \times 40$ divided by 1728 = 370.37 Cubic Feet
 370.37 divided by 35.314 = **10.49 CBM**
- ⇒ We have $200\text{lbs} \times 10 = 2000\text{lbs}$ 2000 divided by 2.2046 = **907.19 KGS**
- ⇒ This shipment has 10.49 Measure Units and .907 Weight Units and is much "fluffier" than it is heavy. **The ocean freight would be calculated based on 10.49 cubit meters. At \$80 W/M, the ocean freight will be \$839.20.**