

TRANSPORTATION CONVERSION TABLES AND CALCULATIONS SEA FREIGHT

Physical Weight

From	To	Multiply by
Metric Ton (Ton)	Kilos (Kg)	1000
Kilos (Kg)	Metric Ton (Ton)	0.001
Pounds (Lb)	Metric Ton (Ton)	0.000453592
Metric Ton (Ton)	Pounds (Lb)	2204.62
Kilos (Kg)	Pounds (Lb)	2.20462
Pounds (Lb)	Kilos (Kg)	0.453592
Long Ton	Pounds (Lb)	2240
Long Ton	Kilos (Kg)	1016.05
Short Ton	Pounds (Lb)	2000
Short Ton	Kilos (Kg)	907.185

Temperature

From	To	Multiply by
Fahrenheit (F)	Celsius (C)	$(F-32) \times 5/9$
Celsius (C)	Fahrenheit (F)	$(Cx9/5) + 32$

Sea Freight Trade Lane Conversions

Weight or Measure Metric (W/M)	1,000 Kg = 1 m ³
US Domestic	100 Lb = 1 Ft ³
Caribbean	2,000 Lb = 40 Ft ³

Volume

From	to	Multiply
Cubic Inches (in ³)	Cubic Feet (Ft ³)	0.000578704
Cubic Feet (Ft ³)	Cubic Inches (in ³)	1728
Cubic Inches (in ³)	Cubic Meters (m ³)	0.0000163871
Cubic Meters (m ³)	Cubic Inches (in ³)	61023.7
Cubic Feet (Ft ³)	Cubic Meters (m ³)	0.0283168
Cubic Meters (m ³)	Cubic Feet (Ft ³)	35.3147
Cubic Centimeters (cm ³)	Cubic Meters (m ³)	0.000001
Cubic Meters (m ³)	Cubic Centimeters (cm ³)	1000000

Linear Measure

From	To	Multiply by
Centimeters (cm)	Inches (in)	0.393701
Inches (in)	Centimeters (cm)	2.54
Feet (ft)	Meters (m)	0.3048
Meters (m)	Feet (ft)	3.28084
Centimeters (cm)	Meters (m)	0,01
Meters (m)	Centimeters (cm)	100

Air/Sea Freight Conversions

From	To	Multiply by	If IATA
Volume Kilos	Cubic Meters	0,006	6,000
Volume Kilos	Cubic Meters	0,007	7,000

When you don't 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 Container Load (LCL) cargo. If your cargo is too large to fit inside any type of ocean container, you have what is called break bulk ocean cargo. Either way, the cost of the space your cargo will utilize inside a consolidated ocean container or loose on a break bulk ocean vessel compared to cost associated with the physical weight of your cargo is used in calculating ocean freight cost.

Most LCL freight cost based on the higher of 1,000 Kilos or 1 cubic meter and referred to as Weight or Measure (W/M) metric.

Example: 9 pallets, each 150Kg and 122cm x 101.6cm x 127cm
(English Standard Measure, each 330.7Lb and 48in x 40in x 50in)

$$9 \text{ pallets} \times (122\text{cm} \times 101.6\text{cm} \times 127\text{cm}) / 1,000,000 \text{ cubic centimeters (cm}^3) = 14.16 \text{ cubic meters (m}^3)$$

or

$$9 \text{ pallets} \times (48\text{in} \times 40\text{in} \times 50\text{in}) = \text{cubic inches (in}^3) / 1,728 = \text{cubic feet (Ft}^3) / 35.314 = 14.16 \text{ cubic meters (m}^3)$$

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 14,160 kilos. Since this is not the case, the ocean freight would be calculated based on 14.16 cubic meters.

The most commonly used calculation in the US domestic LCL markets of Hawaii, Alaska and Puerto Rico is greater of 100 pounds or 1 cubic foot, and in the Caribbean LCL market is the greater of 2000 pounds or 40 cubic feet. Metric ton, short ton and long ton values are used as the basis of break bulk ocean cargo freight calculations.

Air/Sea Freight Combination

Air Freight, Sea Freight and Air/Sea Combination services can be calculated and quickly compared using the above provide Air/Sea Freight Conversion table. Use 0.006 factor if comparing to airfreight based on IATA standard of 6,000 cubic centimeters per one physical kilogram, and use 0.007 factor if comparing to air freight based on 7,000 cubic centimeters per one physical kilogram. In the example, 2,361 volume kilos of air freight (based on IATA standar) x 0.006 = 14.16 cubic meters sea freight.