

HT/LT STEEL STRUCTURE FOUNDATION SIZE

Conversion Table for Calculation of Steel Structure Foundation

Structure		Foundation Size in mm/feet						Material		
Type	Length	Length		Width		Height		Cement (Bags)	Sand (cft)	Gravel (cft)
		MM	Feet	MM	Feet	MM	Feet			
LT	31'	500	1.64	500	1.64	1827	6.0	2.85	7.09	14.18
HT	36'	610	2.0	610	2.0	1981	6.5	4.60	11.45	22.89
HT	40'	770	2.5	770	2.5	2248	7.37	8.31	20.69	41.39
HT	45'	870	2.9	870	2.9	2536	8.32	11.97	29.80	59.61
HT	55' & 58'	1220	4.0	1220	4.0	4060	13.32	37.70	93.83	187.65
HT (FESCO)	55' & 58'	996	3.27	996	3.27	3020	9.91	18.69	46.52	93.03

L.T STEEL STRUCTURE 31' FEET FOUNDATION SIZE

$$\begin{array}{lclclcl} & \text{Length} & & \text{Width} & & \text{Height} \\ \text{Size in mm} & = & 500 & \times & 500 & \times & 1827 \end{array}$$

$$\begin{array}{lclclcl} \text{Size in Feet} & = & 1.64 & \times & 1.64 & \times & 6.0 \end{array}$$

$$\begin{array}{lclclcl} \text{Ratio} & = & 1 & : & 2 & : & 4 \\ & & \text{Cement} & : & \text{Sand} & : & \text{Gravel} \end{array}$$

$$\text{S.Volume Formula} = \text{Length} \times \text{Width} \times \text{Height}$$

$$\text{Solid Volume} = 1.64 \times 1.64 \times 6 = 16.12 \text{ cft.}$$

$$\text{Solid Volume} = \mathbf{16.12 \text{ cft.}}$$

$$\text{Dry Material Formula} = \text{S.Volm} \times 1.54 = 16.12 \times 1.54 = \mathbf{24.82 \text{ cft.}}$$

$$\text{Ratio} = 1 : 2 : 4 = 7$$

(1 cft = 90 Lbs 1 Cement Bag = 112/90Lbs (50 Kg Cement) or 1.25 Cft.)

$$\begin{array}{lclclcl} \text{CEMENT} & = & 1 & \times & 24.82 & \div & 7 & = & 3.55 \text{ cft.} \\ & = & 3.55 & \times & 90 & \div & 112 & = & \mathbf{2.85 \text{ Cement Bags}} \end{array}$$

$$\text{SAND} = 2 \times 24.82 \div 7 = \mathbf{7.09 \text{ cft.}}$$

$$\text{GRAvel} = 4 \times 24.82 \div 7 = \mathbf{14.18 \text{ cft.}}$$

Note:

1 No. Sand trolley Approximately Contains 150 cft. of Sand.

HT STEEL STRUCTURE 36' FEET FOUNDATION SIZE

$$\begin{array}{lcl} & \text{Length} & \text{Width} & \text{Height} \\ \text{Size in mm} & = & 610 & \times & 610 & \times & 1981 \end{array}$$

$$\text{Size in Feet} = 2.0 \times 2.0 \times 6.5$$

$$\begin{array}{lcl} \text{Ratio} & = & 1 & : & 2 & : & 4 \\ & & \text{Cement} & : & \text{Sand} & : & \text{Gravel} \end{array}$$

$$\text{S.Volume Formula} = \text{Length} \times \text{Width} \times \text{Height}$$

$$\text{Solid Volume} = 2.0 \times 2.0 \times 6.5 = 26.01 \text{ cft.}$$

$$\text{Solid Volume} = \mathbf{26.01 \text{ cft.}}$$

$$\text{Dry Material Formula} = \text{S.Volm} \times 1.54 = 26.01 \times 1.54 = \mathbf{40.06 \text{ cft.}}$$

$$\text{Ratio} = 1 : 2 : 4 = 7$$

(1 cft = 90 Lbs 1 Cement Bag = 112/90Lbs (50 Kg Cement) or 1.25 Cft.)

$$\begin{array}{lcl} \text{CEMENT} & = & 1 \times 40.06 \div 7 = 5.72 \text{ cft.} \\ & = & 5.72 \times 90 \div 112 = \mathbf{4.60 \text{ Cement Bags}} \end{array}$$

$$\text{SAND} = 2 \times 40.06 \div 7 = \mathbf{11.45 \text{ cft.}}$$

$$\text{GRAVEL} = 4 \times 40.06 \div 7 = \mathbf{22.89 \text{ cft.}}$$

Note:

1 No. Sand trolley Approximately Contains 150 cft. of Sand.

HT STEEL STRUCTURE 40' FEET FOUNDATION SIZE

$$\begin{array}{lclclcl} & \text{Length} & & \text{Width} & & \text{Height} \\ \text{Size in mm} & = & 770 & \times & 770 & \times & 2248 \end{array}$$

$$\text{Size in Feet} = 2.5 \times 2.5 \times 7.37$$

$$\begin{array}{lclclcl} \text{Ratio} & = & 1 & : & 2 & : & 4 \\ & & \text{Cement} & : & \text{Sand} & : & \text{Gravel} \end{array}$$

$$\text{S.Volume Formula} = \text{Length} \times \text{Width} \times \text{Height}$$

$$\text{Solid Volume} = 2.5 \times 2.5 \times 7.37 = 47.03 \text{ cft.}$$

$$\text{Solid Volume} = \mathbf{47.03 \text{ cft.}}$$

$$\text{Dry Material Formula} = \text{S.Volm} \times 1.54 = 47.03 \times 1.54 = \mathbf{72.43 \text{ cft.}}$$

$$\text{Ratio} = 1 : 2 : 4 = 7$$

(1 cft = 90 Lbs 1 Cement Bag = 112/90Lbs (50 Kg Cement) or 1.25 Cft.)

$$\begin{array}{lclclclcl} \text{CEMENT} & = & 1 & \times & 72.43 & \div & 7 & = & 10.35 \text{ cft.} \\ & = & 10.35 & \times & 90 & \div & 112 & = & \mathbf{8.31 \text{ Cement Bags}} \end{array}$$

$$\text{SAND} = 2 \times 72.43 \div 7 = \mathbf{20.69 \text{ cft.}}$$

$$\text{GRAVEL} = 4 \times 72.43 \div 7 = \mathbf{41.39 \text{ cft.}}$$

Note:

1 No. Sand trolley Approximately Contains 150 cft. of Sand.

HT STEEL STRUCTURE 45' FEET FOUNDATION SIZE

$$\begin{array}{l} \text{Length} \quad \text{Width} \quad \text{Height} \\ \text{Size in mm} = 870 \times 870 \times 2536 \end{array}$$

$$\text{Size in Feet} = 2.9 \times 2.9 \times 8.32$$

$$\begin{array}{l} \text{Ratio} = 1 : 2 : 4 \\ \text{Cement} : \text{Sand} : \text{Gravel} \end{array}$$

$$\text{S.Volume Formula} = \text{Length} \times \text{Width} \times \text{Height}$$

$$\text{Solid Volume} = 2.9 \times 2.9 \times 8.32 = 67.73 \text{ cft.}$$

$$\text{Solid Volume} = \mathbf{67.73 \text{ cft.}}$$

$$\text{Dry Material Formula} = \text{S.Volm} \times 1.54 = 67.73 \times 1.54 = \mathbf{104.31 \text{ cft.}}$$

$$\text{Ratio} = 1 : 2 : 4 = 7$$

(1 cft = 90 Lbs 1 Cement Bag = 112/90Lbs (50 Kg Cement) or 1.25 Cft.)

$$\begin{array}{l} \text{CEMENT} = 1 \times 104.31 \div 7 = 14.90 \text{ cft.} \\ = 14.90 \times 90 \div 112 = \mathbf{11.97 \text{ Cement Bags}} \end{array}$$

$$\text{SAND} = 2 \times 104.31 \div 7 = \mathbf{29.80 \text{ cft.}}$$

$$\text{GRAVEL} = 4 \times 104.31 \div 7 = \mathbf{59.61 \text{ cft.}}$$

Note:

1 No. Sand trolley Approximately Contains 150 cft. of Sand.

HT STEEL STRUCTURE 55' & 58' FEET FOUNDATION SIZE

$$\begin{array}{rcllcl} & \text{Length} & & \text{Width} & & \text{Height} \\ \text{Size in mm} & = & 1220 & \times & 1220 & \times & 4060 \end{array}$$

$$\begin{array}{rcllcl} \text{Size in Feet} & = & 4.0 & \times & 4.0 & \times & 13.32 \end{array}$$

$$\begin{array}{rcllcl} \text{Ratio} & = & 1 & : & 2 & : & 4 \\ & & \text{Cement} & : & \text{Sand} & : & \text{Gravel} \end{array}$$

$$\text{S.Volume Formula} = \text{Length} \times \text{Width} \times \text{Height}$$

$$\text{Solid Volume} = 4.0 \times 4.0 \times 13.32 = 213.24 \text{ cft.}$$

$$\text{Solid Volume} = \mathbf{213.24 \text{ cft.}}$$

$$\text{Dry Material Formula} = \text{S.Volm} \times 1.54 = 213.24 \times 1.54 = \mathbf{328.39 \text{ cft.}}$$

$$\text{Ratio} = 1 : 2 : 4 = 7$$

(1 cft = 90 Lbs 1 Cement Bag = 112/90Lbs (50 Kg Cement) or 1.25 Cft.)

$$\begin{array}{rcllcl} \text{CEMENT} & = & 1 & \times & 328.39 & \div & 7 & = & 46.91 \text{ cft.} \\ & = & 46.91 & \times & 90 & \div & 112 & = & \mathbf{37.70 \text{ Cement Bags}} \end{array}$$

$$\text{SAND} = 2 \times 328.39 \div 7 = \mathbf{93.83 \text{ cft.}}$$

$$\text{GRAVEL} = 4 \times 328.39 \div 7 = \mathbf{187.65 \text{ cft.}}$$

Note:

1 No. Sand trolley Approximately Contains 150 cft. of Sand.

HT STEEL STRUCTURE 55' & 58' FEET FOUNDATION SIZE (FESCO)

$$\begin{array}{lclclcl} & \text{Length} & & \text{Width} & & \text{Height} \\ \text{Size in mm} & = & 996 & \times & 996 & \times & 3020 \end{array}$$

$$\begin{array}{lclclcl} \text{Size in Feet} & = & 3.27 & \times & 3.27 & \times & 9.91 \end{array}$$

$$\begin{array}{lclclcl} \text{Ratio} & = & 1 & : & 2 & : & 4 \\ & & \text{Cement} & : & \text{Sand} & : & \text{Grave} \end{array}$$

$$\text{S.Volume Formula} = \text{Length} \times \text{Width} \times \text{Height}$$

$$\text{Solid Volume} = 3.3 \times 3.3 \times 9.91 = 105.72 \text{ cft.}$$

$$\text{Solid Volume} = \mathbf{105.72 \text{ cft.}}$$

$$\text{Dry Material Formula} = \text{S.Volm} \times 1.54 = 105.72 \times 1.54 = \mathbf{162.81 \text{ cft.}}$$

$$\text{Ratio} = 1 : 2 : 4 = 7$$

(1 cft = 90 Lbs 1 Cement Bag = 112/90Lbs (50 Kg Cement) or 1.25 Cft.)

$$\begin{array}{lclclclcl} \text{CEMENT} & = & 1 & \times & 162.81 & \div & 7 & = & 23.26 \text{ cft.} \\ & = & 23.26 & \times & 90 & \div & 112 & = & \mathbf{18.69 \text{ Cement Bags}} \end{array}$$

$$\text{SAND} = 2 \times 162.81 \div 7 = \mathbf{46.52 \text{ cft.}}$$

$$\text{GRAVEL} = 4 \times 162.81 \div 7 = \mathbf{93.03 \text{ cft.}}$$

Note:

1 No. Sand trolley Approximately Contains 150 cft. of Sand.