

MS SQUARE PIPE WEIGHT CHART & CALCULATION 2026

Complete Weight Reference Guide for MS Square Pipes

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Introduction

MS Square Pipes, also known as Square Hollow Sections (SHS), are widely used in construction, structural fabrication, engineering, industrial frameworks, machinery, railings, gates, and infrastructure applications.

Knowing the approximate weight of an MS Square Pipe is important for material estimation, structural planning, transportation, inventory management, quotation preparation, and project costing.

This **MS Square Pipe Weight Chart 2026** provides commonly used pipe sizes, wall thicknesses, theoretical weight per metre, and calculation guidance to help buyers, engineers,

contractors, fabricators, and procurement professionals estimate material requirements accurately.

MS Square Pipe Weight Chart 2026

MS SQUARE PIPES WITH WEIGHT CHART



Strong | Durable | Versatile
Ideal for Structural, Industrial & Construction Applications

MS SQUARE PIPE WEIGHT CHART			
Size (OD) in mm	Wall Thickness in mm	Sectional Area in cm²	Weight (kg/m)
20 x 20	1.2	2.14	1.68
25 x 25	1.2	2.79	2.19
30 x 30	1.2	3.45	2.71
40 x 40	1.5	5.61	4.41
50 x 50	1.5	7.10	5.58
60 x 60	1.5	8.59	6.75
75 x 75	2.0	12.20	9.58
80 x 80	2.0	13.76	10.80
100 x 100	2.0	17.04	13.39
125 x 125	2.5	25.00	19.63
150 x 150	3.0	36.00	28.27
200 x 200	3.0	48.00	37.70

 High Strength

 Corrosion Resistant

 Excellent Durability

 Easy to Fabricate

 Wide Range of Sizes & Thickness

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Size (mm)	Thickness (mm)	Approx. Weight (kg/m)
20 × 20	2.0	1.13
25 × 25	2.0	1.45
25 × 25	2.5	1.77
30 × 30	2.0	1.76
30 × 30	3.0	2.57
40 × 40	2.5	2.94
40 × 40	3.0	3.49
40 × 40	4.0	4.52
50 × 50	3.0	4.43
50 × 50	4.0	5.79
50 × 50	5.0	7.07
60 × 60	3.0	5.37
60 × 60	4.0	7.04
75 × 75	3.0	6.76
75 × 75	4.0	8.91

80 × 80	3.0	7.25
80 × 80	5.0	11.78
80 × 80	6.0	13.99
100 × 100	4.0	12.05
100 × 100	5.0	14.92
100 × 100	6.0	17.73
100 × 100	8.0	23.16
120 × 120	5.0	18.06
120 × 120	6.0	21.53
150 × 150	6.0	27.00
150 × 150	8.0	35.56
200 × 200	6.0	36.41
200 × 200	8.0	48.01
200 × 200	10.0	59.00

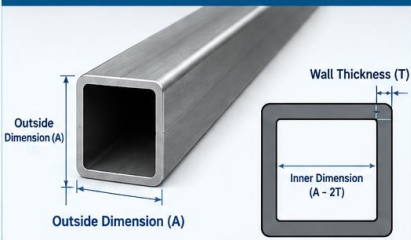
Note: Values shown are theoretical/approximate and are intended for estimation. Actual weight can vary according to dimensions, tolerances, corner radius, manufacturing process, and applicable specifications.

MS Square Pipe Weight Calculation Formula

MS Square Pipe Weight Calculation

Simple Formula | Step-by-Step Example | Accurate Results

Key Dimensions



Dimension Guide

A	Outer dimension (in mm or m)
T	Wall thickness (in mm or m)
A - 2T	Inner dimension (in mm or m)

Formula

$$\text{Weight (kg/m)} = [A^2 - (A - 2T)^2] \times 7850$$

A = Outside dimension (in metres)
T = Wall thickness (in metres)
7850 = Density of mild steel (kg/m³)

Step-by-Step Calculation

- Convert dimensions to metres**
A = 40 mm = 0.040 m
T = 3 mm = 0.003 m
- Find inner dimension**
A - 2T = 40 - (2 × 3) = 34 mm = 0.034 m
- Calculate cross-sectional area**
 $A^2 - (A - 2T)^2 = 0.040^2 - 0.034^2$
= 0.0016 - 0.001156 = 0.000444 m²
- Multiply by density**
0.000444 × 7850 = 3.486 kg/m

Example: 40 × 40 × 3 mm MS Square Pipe

Outer dimension (A) : 40 mm (0.040 m)
Wall thickness (T) : 3 mm (0.003 m)
Inner dimension (A - 2T) : 34 mm (0.034 m)

Weight per metre (kg/m)

$$= [0.040^2 - 0.034^2] \times 7850$$

$$= [0.0016 - 0.001156] \times 7850$$

$$= 0.000444 \times 7850$$

$$= 3.486 \text{ kg/m} (\approx 3.49 \text{ kg/m})$$

Therefore,
40 × 40 × 3 mm MS Square Pipe
weighs approximately
3.49 kg per metre.

Additional Information

Weight per foot
= Weight per metre ÷ 3.28084
(e.g. 3.49 kg/m ÷ 3.28084 = 1.06 kg/ft)

Total weight for a pipe
= Weight per metre × Length
(e.g. 3.49 kg/m × 6 m = 20.94 kg)

Note:
These are theoretical values. Actual weight may vary due to manufacturing tolerances, corner radius and applicable standards.

The weight of an MS Square Pipe can be estimated using its cross-sectional area and the density of steel.

Formula

Weight (kg/m) = Cross-Sectional Area × Steel Density

For a square hollow section:

$$\text{Weight} = [A^2 - (A - 2T)^2] \times 0.00785$$

Where:

- **A** = Outside dimension in mm
- **T** = Wall thickness in mm
- **0.00785** = steel conversion factor

This formula provides an approximate theoretical weight per metre.

Example Calculation – 40 × 40 × 3 mm

Step 1: Identify dimensions

Outside dimension = **40 mm**

Wall thickness = **3 mm**

Step 2: Calculate inside dimension

Inside dimension:

$$40 - (2 \times 3) = 34 \text{ mm}$$

Step 3: Calculate cross-sectional area

$$40^2 - 34^2$$

$$= 1600 - 1156$$

$$= 444 \text{ mm}^2$$

Step 4: Calculate weight

$$444 \times 0.00785 = \text{approximately } 3.49 \text{ kg/m}$$

Therefore:

$40 \times 40 \times 3$ mm MS Square Pipe ≈ 3.49 kg/m

MS Square Pipe Weight Per Foot

If the weight is available in kg/m, it can be converted into kg/ft.

Formula

Weight per foot = Weight per metre $\div$ 3.28084

For a $40 \times 40 \times 3$ mm pipe:

$3.49 \div 3.28084 \approx 1.06$ kg/ft

Therefore:

$40 \times 40 \times 3$ mm ≈ 1.06 kg/ft

Weight of a 6-Metre MS Square Pipe

To calculate the approximate weight of one 6-metre pipe:

Formula

Weight per pipe = Weight per metre $\times$ Pipe Length

For $40 \times 40 \times 3$ mm:

$3.49 \times 6 = 20.94$ kg

Therefore:

Approximate 6-metre pipe weight = 20.94 kg

Complete Order Weight Calculation

Suppose you require:

Size: $50 \times 50 \times 4$ mm

Weight: Approximately 5.79 kg/m

Length: 6 metres
Quantity: 100 pieces

Weight of one pipe

$$5.79 \times 6 = 34.74 \text{ kg}$$

Weight of 100 pipes

$$34.74 \times 100 = 3,474 \text{ kg}$$

Total approximate weight

$$3,474 \text{ kg} = 3.474 \text{ metric tonnes}$$

This calculation can help estimate transportation, handling, inventory, and material requirements.

MS Square Pipe Price Calculation

MS Square Pipe prices can change according to steel market conditions, size, thickness, quantity, manufacturing process, location, taxes, freight, and supplier terms.

A basic material-cost calculation is:

$$\text{Estimated Material Cost} = \text{Total Weight} \times \text{Price per kg}$$

For example, if an order weighs **3,474 kg**, multiply the total weight by the supplier's current price per kilogram to estimate the material value.

Because steel prices fluctuate, buyers should request a current quotation before placing an order.

Factors Affecting MS Square Pipe Price

- Raw material price
- Size and wall thickness
- Quantity
- Required standard
- Manufacturing process
- Testing and certification
- Surface condition
- GST and taxes
- Packing
- Freight
- Delivery location

- Market availability
-

Theoretical Weight vs Actual Weight

Weight charts generally provide theoretical values.

Actual supplied weight may differ because of:

- Wall thickness tolerances
- Outside dimension tolerances
- Corner radius
- Manufacturing process
- Length tolerances
- Measurement methods
- Applicable standards

Therefore, weight-chart values should primarily be used for estimation and preliminary calculations.

For commercial transactions, buyers should consider the actual supplied dimensions, agreed tolerances, certification, and contractual weighing terms.

Importance of Wall Thickness

Wall thickness has a direct effect on the weight and structural properties of an MS Square Pipe.

For the same outside dimensions, increasing the wall thickness generally increases:

- Weight per metre
- Cross-sectional area
- Structural stiffness
- Resistance to deformation
- Material consumption

The correct wall thickness should be selected according to engineering calculations, load requirements, span, connections, environmental conditions, and applicable project specifications.

IS 4923 MS Square Hollow Sections

IS 4923 is an important Indian Standard associated with steel hollow sections for structural applications.

When purchasing MS Square Pipes for structural use, buyers should specify:

- Outside dimensions
- Wall thickness
- Required grade
- Applicable standard
- Length
- Quantity
- Testing requirements
- Certification requirements

For projects requiring material traceability, a **Material Test Certificate (MTC)** may also be requested.

Always verify the applicable standard and grade against the specific project requirements.

Applications of MS Square Pipes

**SACHIYA STEEL
INTERNATIONAL
PRIVATE LIMITED**

Applications of MS Square Pipes

Strong | Durable | Versatile
Ideal for a wide range of
structural and industrial applications.



High Strength

Corrosion Resistant
(when using SS options)

Easy Fabrication

Cost Effective

**Built for Strength.
Designed for Your Projects.**

MS Square Pipes are commonly used in:

- Structural frameworks

- Industrial sheds
 - Warehouse structures
 - Construction projects
 - Staircases
 - Railings
 - Gates
 - Fencing
 - Machinery frames
 - Automotive structures
 - Agricultural equipment
 - Solar structures
 - Furniture
 - General fabrication
 - Engineering applications
-

How to Select the Right MS Square Pipe

Before purchasing an MS Square Pipe, confirm the following:

1. Size

Select the required outside dimensions.

2. Thickness

Choose the wall thickness according to the application and design requirements.

3. Standard

Confirm the required IS or project specification.

4. Length

Specify standard or customized pipe lengths.

5. Quantity

Mention the number of pieces or total required length.

6. Certification

Specify MTC, testing, or inspection requirements where applicable.

7. Delivery

Provide the delivery location to calculate freight and logistics requirements.

Quick Weight Calculation Guide

To calculate weight per metre:

$$\text{Weight} = [A^2 - (A - 2T)^2] \times 0.00785$$

To calculate weight per foot:

$$\text{kg/ft} = \text{kg/m} \div 3.28084$$

To calculate one pipe weight:

$$\text{Pipe Weight} = \text{kg/m} \times \text{Pipe Length}$$

To calculate total order weight:

$$\text{Total Weight} = \text{kg/m} \times \text{Total Length}$$

To estimate material cost:

$$\text{Material Cost} = \text{Total Weight} \times \text{Price/kg}$$

Frequently Asked Questions

Q1. What is an MS Square Pipe Weight Chart?

An MS Square Pipe Weight Chart provides approximate theoretical weights for different square pipe dimensions and wall thicknesses.

Q2. How is MS Square Pipe weight calculated?

Weight can be calculated from the outside dimension, wall thickness, cross-sectional area, and steel density.

Q3. What density is used for MS weight calculations?

A nominal steel density of approximately **7850 kg/m³** is commonly used for theoretical calculations.

Q4. Does wall thickness affect pipe weight?

Yes. Increasing wall thickness increases the cross-sectional area and therefore increases the weight per metre.

Q5. How do I calculate the weight of a 6-metre pipe?

Multiply the pipe's kg/m value by 6.

Q6. Is chart weight the actual supplied weight?

Not necessarily. Chart values are generally theoretical, while actual weight may vary within applicable manufacturing tolerances.

Q7. What is IS 4923?

IS 4923 is an Indian Standard specification associated with steel hollow sections used for structural applications.

Q8. How do I calculate the total weight of an order?

Multiply the weight per metre by the total length of material required.

Q9. What information is needed for an MS Square Pipe quotation?

Provide size, thickness, length, quantity, standard/grade, certification requirements, and delivery location.

Q10. How can I get the latest MS Square Pipe price?

Contact Sachiya Steel International Private Limited with your required specifications and quantity for a current quotation.

Why Choose Sachiya Steel International?

Sachiya Steel International Private Limited supplies steel products for construction, engineering, fabrication, infrastructure, and industrial applications.

We can assist customers with specification-based requirements, quantities, technical documentation, and project-specific material enquiries.

For MS Square Pipe requirements, provide the required:

Size + Thickness + Length + Quantity + Standard + Delivery Location

to receive a suitable quotation.

Contact Us

Sachiya Steel International Private Limited

Phone: +91 9769056007

Email: sales@sachiyasteel.com

Website: www.sachiyasteel.com

Get a Quote

Contact our team for MS Square Pipe requirements, pricing, availability, and project-specific quotations.

Important Disclaimer

The weights presented in this guide are theoretical/approximate values intended for estimation and general reference. Actual pipe weight may vary depending on manufacturing tolerances, dimensions, corner radius, material specification, length, and applicable standards.

For engineering design and commercial purchasing, always verify the applicable specification, actual dimensions, certification, and supplier documentation.

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