

# EN 10219 S235

## - ALLLAND Production Standards Overview



## Definition and Applications

### 1. Definition

**EN 10219 S235 Structural Steel Pipe** is a cold-formed welded hollow section manufactured from non-alloy structural steel according to the European standard EN 10219. It offers good weldability, formability, and reliable mechanical performance, making it widely used in general construction and structural engineering applications.

ALLLAND supplies EN 10219 S235 **Circular Hollow Sections (CHS)**, **Square Hollow Sections (SHS)**, and **Rectangular Hollow Sections (RHS)** with precise dimensions, consistent quality, and strict inspection procedures to meet international project requirements.

### 2. ALLLAND EN 10219 S235 Structural Steel Pipe Dimensions

| Item                         | Specification                        |
|------------------------------|--------------------------------------|
| <b>Standard</b>              | EN 10219                             |
| <b>Grade</b>                 | S235JRH / S235JR                     |
| <b>Product Type</b>          | Welded Structural Hollow Section     |
| <b>Section Type</b>          | CHS / SHS / RHS                      |
| <b>Manufacturing Process</b> | Cold Formed + High Frequency Welding |
| <b>Material</b>              | Non-alloy Structural Steel           |
| <b>Outside Diameter</b>      | 21.3–610 mm (CHS)                    |
| <b>Section Size</b>          | Customized (SHS/RHS)                 |
| <b>Wall Thickness</b>        | 1.5–25 mm                            |
| <b>Length</b>                | 6 m / 12 m / Customized              |
| <b>Surface</b>               | Black, Galvanized, Coated            |

### 3. Application

**EN 10219 S235 Steel Pipes** are widely used in structural and engineering applications requiring reliable strength and fabrication performance. They are commonly applied in steel buildings, industrial structures, bridges, machinery supports, frames, agricultural structures, and general construction projects. With excellent weldability and dimensional accuracy, S235 hollow sections provide an economical and versatile solution for load-bearing structures.

### Critical Tolerances

| Item                          | Tolerance                          |
|-------------------------------|------------------------------------|
| <b>Outside Diameter (CHS)</b> | ±1% (Min. ±0.5 mm)                 |
| <b>Wall Thickness</b>         | ±10%                               |
| <b>Length</b>                 | ±500 mm (Standard)                 |
| <b>Straightness</b>           | ≤0.2% of total length              |
| <b>Section Shape</b>          | According to EN 10219 requirements |

*Customized tolerances are available according to project specifications.*

### Chemical and Mechanical Properties

#### 1. Chemical Composition

| Grade          | C (Max) | Mn (Max) | P (Max) | S (Max) | N (Max) |
|----------------|---------|----------|---------|---------|---------|
| <b>S235JRH</b> | 0.20%   | 1.40%    | 0.040%  | 0.040%  | 0.009%  |

#### 2. Mechanical Properties

| Grade          | Yield Strength (MPa) | Tensile Strength (MPa) | Elongation (%) |
|----------------|----------------------|------------------------|----------------|
| <b>S235JRH</b> | ≥235                 | 360–510                | ≥24            |

### Dimension Specifications Table

#### 1. EN 10219 S235 Circular Hollow Section (CHS) Dimensions

| Outside Diameter (mm) | Wall Thickness (mm) | Approx. Weight (kg/m) |
|-----------------------|---------------------|-----------------------|
| 21.3                  | 2.0                 | 0.96                  |
| 26.9                  | 2.0                 | 1.22                  |
| 33.7                  | 2.0                 | 1.54                  |
| 42.4                  | 2.0                 | 1.95                  |
| 48.3                  | 2.0–3.2             | 2.25–3.39             |
| 60.3                  | 2.0–4.0             | 2.82–5.52             |
| 76.1                  | 2.5–5.0             | 4.55–7.10             |
| 88.9                  | 3.2–6.3             | 6.82–12.70            |

| Outside Diameter (mm) | Wall Thickness (mm) | Approx. Weight (kg/m) |
|-----------------------|---------------------|-----------------------|
| 101.6                 | 3.6–6.3             | 8.74–15.00            |
| 114.3                 | 3.6–8.0             | 9.88–21.90            |
| 139.7                 | 4.0–10.0            | 13.40–32.70           |
| 168.3                 | 5.0–12.5            | 20.00–49.10           |
| 219.1                 | 6.3–16.0            | 33.10–82.80           |
| 273.0                 | 8.0–20.0            | 52.10–130.00          |
| 323.9                 | 10.0–20.0           | 76.30–156.00          |
| 406.4                 | 10.0–25.0           | 96.00–244.00          |
| 508.0                 | 12.5–25.0           | 154.00–302.00         |
| 610.0                 | 16.0–25.0           | 234.00–365.00         |

## 2. EN 10219 S235 Square Hollow Section (SHS) Dimensions

| Section Size (mm) | Wall Thickness (mm) | Approx. Weight Range (kg/m) |
|-------------------|---------------------|-----------------------------|
| 20 × 20           | 1.5–3.0             | 0.87–1.57                   |
| 30 × 30           | 2.0–3.0             | 1.76–2.58                   |
| 40 × 40           | 2.0–4.0             | 2.39–4.78                   |
| 50 × 50           | 2.0–5.0             | 2.98–7.13                   |
| 60 × 60           | 2.0–6.0             | 3.64–10.20                  |
| 80 × 80           | 3.0–8.0             | 7.10–18.10                  |
| 100 × 100         | 3.0–10.0            | 8.96–28.90                  |
| 120 × 120         | 4.0–10.0            | 14.50–34.00                 |
| 150 × 150         | 5.0–12.5            | 22.50–56.00                 |
| 200 × 200         | 6.0–16.0            | 35.10–94.00                 |
| 250 × 250         | 8.0–20.0            | 61.20–148.00                |
| 300 × 300         | 10.0–25.0           | 89.80–222.00                |

## 3. EN 10219 S235 Rectangular Hollow Section (RHS) Dimensions

| Section Size (mm) | Wall Thickness (mm) | Approx. Weight Range (kg/m) |
|-------------------|---------------------|-----------------------------|
| 40 × 20           | 2.0–4.0             | 1.76–3.19                   |
| 50 × 25           | 2.0–4.0             | 2.13–3.82                   |
| 60 × 40           | 2.0–5.0             | 3.00–7.06                   |
| 80 × 40           | 3.0–6.0             | 5.12–10.60                  |
| 100 × 50          | 3.0–8.0             | 6.95–16.80                  |
| 120 × 60          | 4.0–8.0             | 10.90–20.00                 |
| 150 × 75          | 5.0–10.0            | 16.70–31.90                 |
| 160 × 80          | 5.0–12.5            | 18.20–44.20                 |
| 200 × 100         | 6.0–16.0            | 28.10–73.00                 |
| 250 × 150         | 8.0–20.0            | 59.00–119.00                |
| 300 × 200         | 10.0–25.0           | 89.80–185.00                |
| 400 × 200         | 10.0–25.0           | 120.00–216.00               |

## Available Sizes

- **CHS:** Outside Diameter 21.3–610 mm

- **SHS:** 20×20–300×300 mm
- **RHS:** 40×20–400×200 mm
- **Wall Thickness:** 1.5–25 mm
- **Length:** 6 m / 12 m / Customized

*Note: Dimensions above are typical EN 10219 S235 hollow section sizes. ALLLAND can supply customized CHS, SHS, and RHS dimensions according to project requirements.*

## ALLLAND EN 10219 S235 Product Images



The image shows steel pipes actually produced by our company