

GALVANIZED STEEL



PROFILES

GALVANIZED STEEL PROFILES

The following specifications apply to all our steel products presented in this catalogue unless otherwise indicated.

Steel Specifications

All ATE's profiles conform to the finest steel standards accepted by the ASTM B633.

A sample of ATE's profiles was submitted to a US laboratory and the results showed a tensile strength > 55k psi, yield strength > 42k psi, 15.75% elongation and a zinc coating thickness of 30µm.

The actual steel thickness used in ATE's profiles may differ from the thickness specified in this catalogue by a maximum of 0.05 mm.

Most of ATE's products can be manufactured in any gauge, as required by the customer. However common gauges are:

| Thickness | | Nearest U.S. Gauge Number |
|-----------|--------|------------------------------|
| (mm) | (inch) | |
| 0.45 | 0.020 | 26 |
| 0.50 | 0.024 | 25 |
| 0.60 | 0.028 | 23 |
| 1.0 | 0.039 | 19 |
| 1.2 | 0.047 | 18 |

Corrosion Resistance

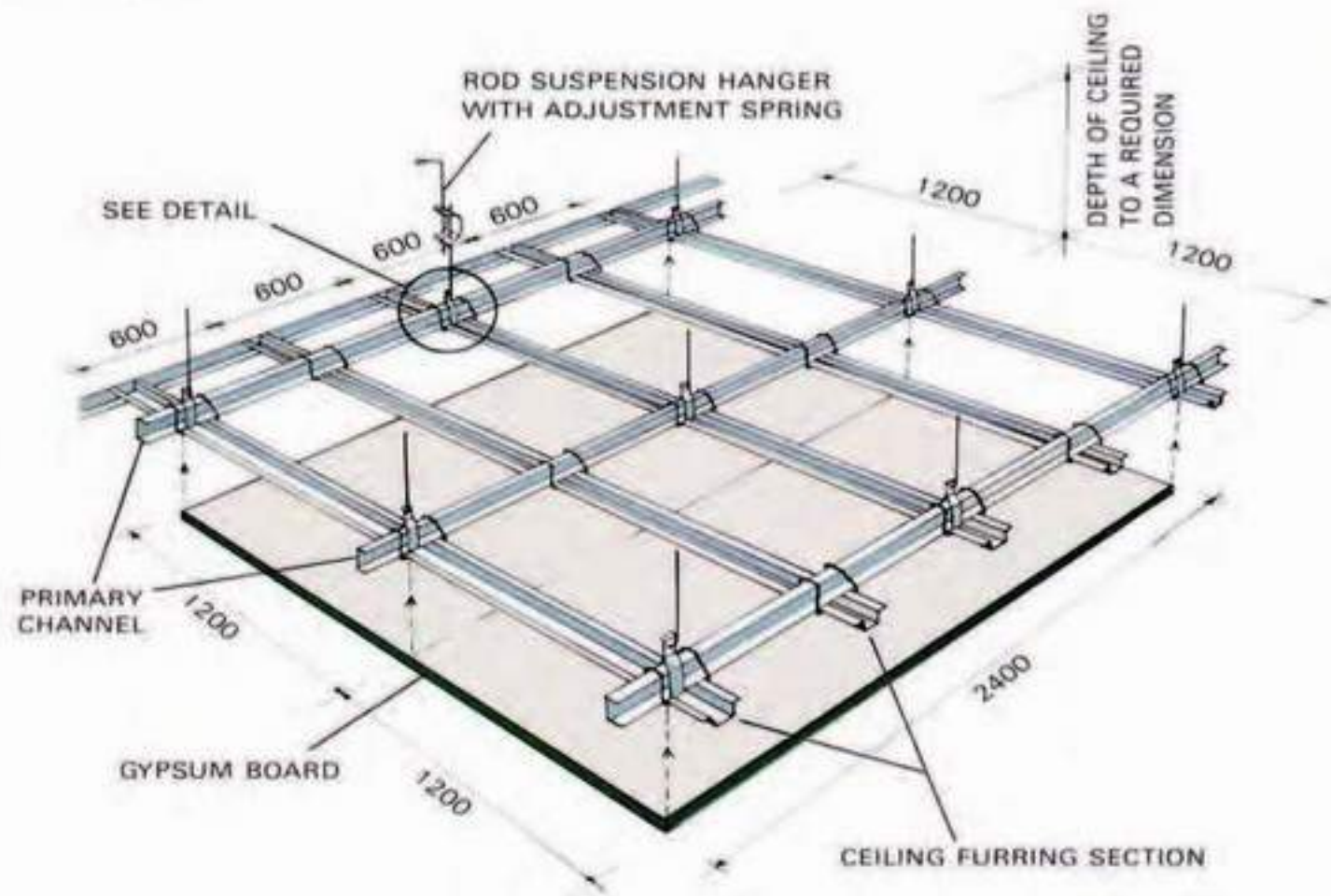
According to the ASTM B633, the Zinc coating thickness ranges from 5.1 to 25.4µm. However at ATE we are proud to exceed these requirements, applying a zinc coating thickness of 30µm to our profiles. This results in more durable quality products.

Durability

With the adoption of heavier zinc coatings on galvanized steel, ATE products provide superior durability. This is particularly important in aggressive environments such as humid coastal regions. This made ATE the preferred supplier of steel framing products in the Gulf Region.

Fire Resistance

Building codes require steel framing to have a fire resistance rating based on ASTM standard E119. Since ATE follows the ASTM standards for materials, coatings and manufacturing, we can confirm that our products meet the E119 standard when used, as recommended in the applications notes sections of this catalogue.



System Overview

The furring ceiling system is a method of fixing one or two layers of plasterboard to metal suspended grid to provide a smooth ceiling where additional decoration may be applied.

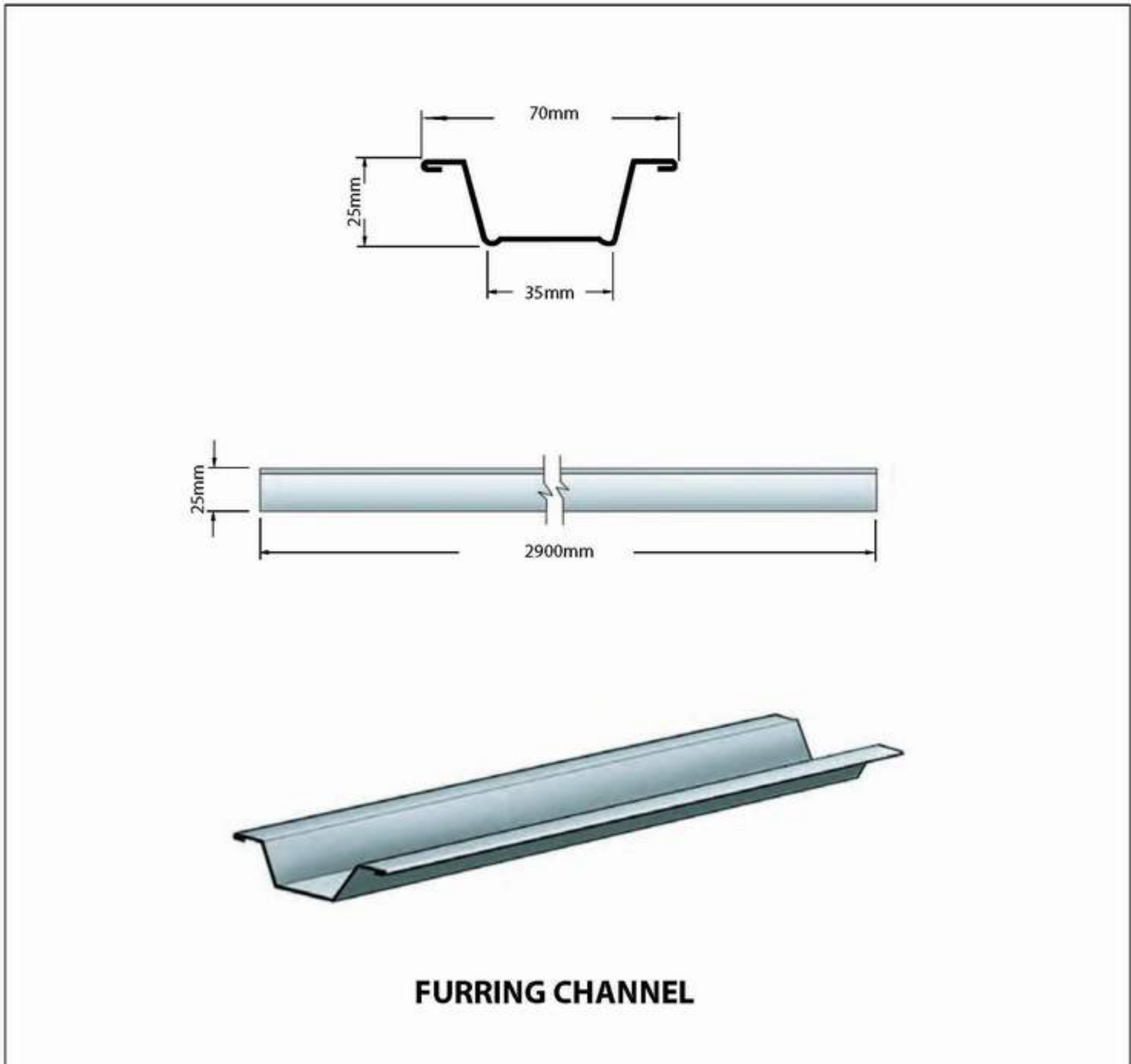
System Components

1. Furring Channel (35 mm).
2. Main Channel (38 mm).
3. Plasterboard.
4. Angle (25x25mm).
5. Channel Bracket.
6. Preformed Wire Clip.

Fixing Notes

- The main channels should have maximum centers of 1200 mm.
- The furring channels should have maximum centers of 600 mm (single plasterboard) or 450 mm (two plasterboards).
- 1" - 2" drywall screws may be used to fix the plasterboard to the furring channels, depending of the board thickness.
- Wire clips should be used at every intersection between the main and furring channels.
- Suspended ceiling hangers should be used at least every 1200mm.

Furring Channel 35x25 mm Specifications

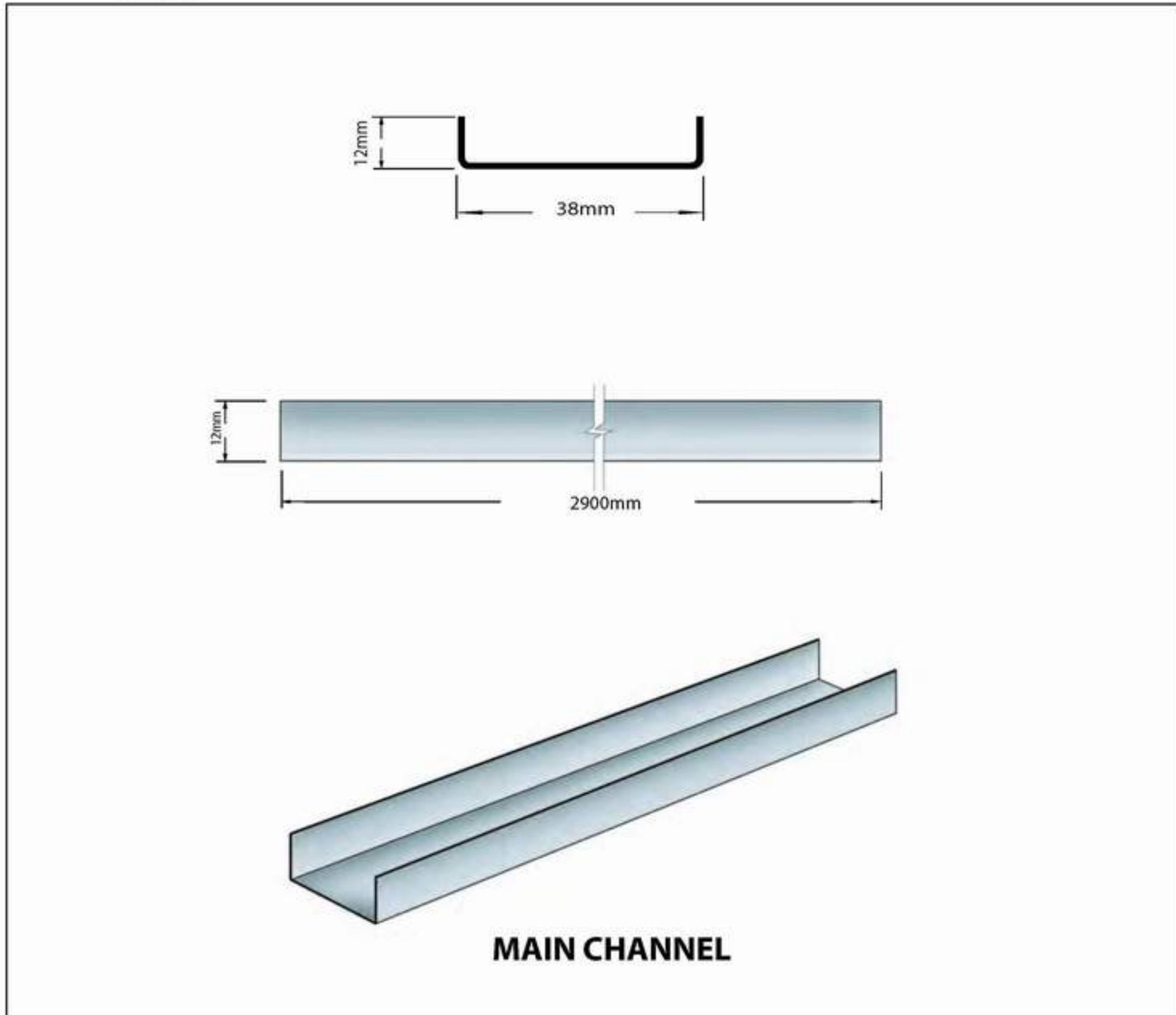


Physical Properties

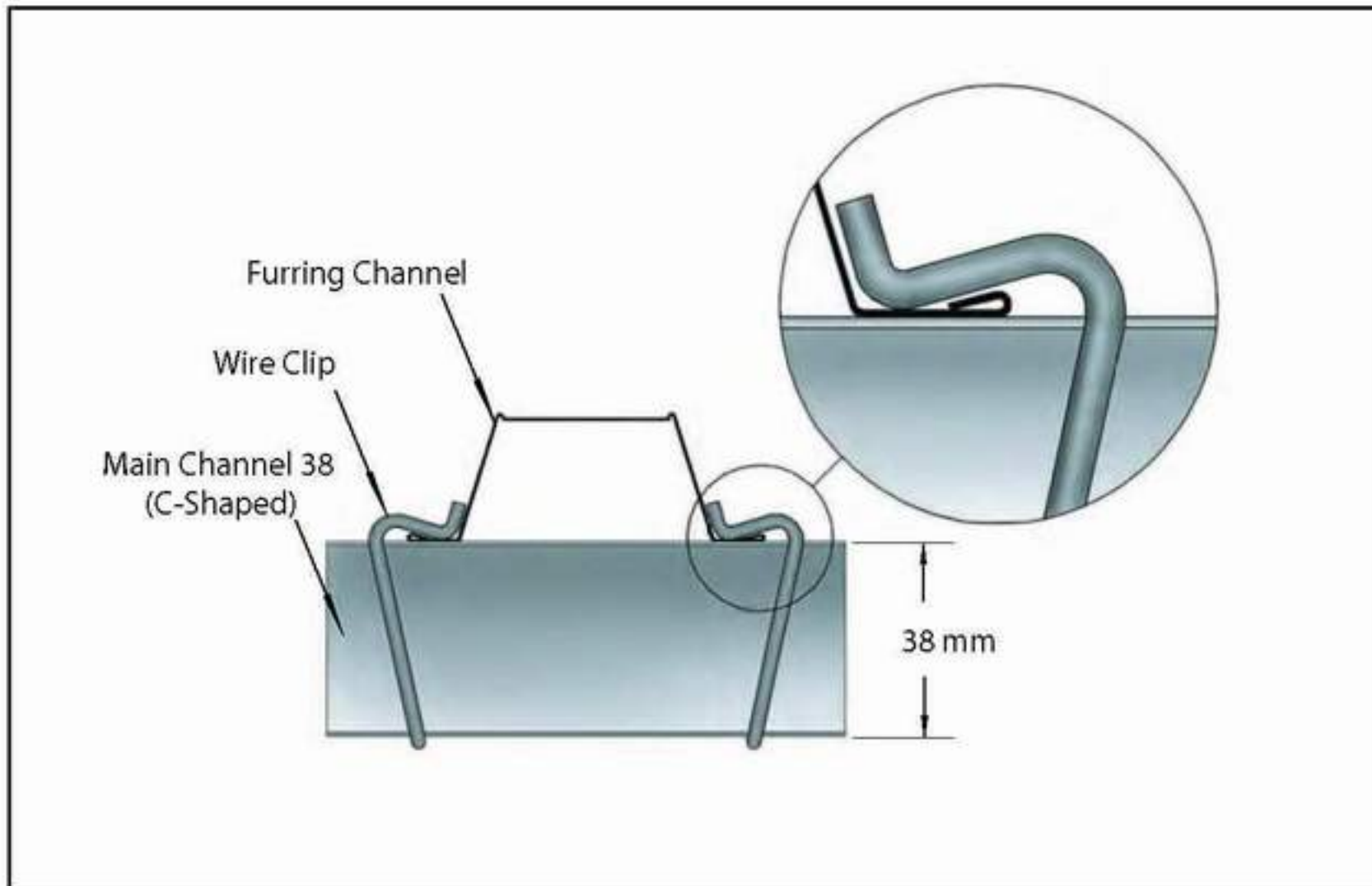
| Product | Dimension | | | | | Galvanization | Packing Pcs/Bundle |
|---------|--------------|--------------|-------------|-----------------|------------------|---------------------------|-----------------------|
| | Length mm | Height mm | Width mm | Thickness mm | Weight Kg/pcs | | |
| FC 35 | 2900 | 25 | 70 | 0.45 | 1.08 | 30 μ m (ASTM-B633) | 20 pcs |

Main Channel 38 mm Specifications

The standard main channel profile comes in a width of 38mm and a flange of 12mm.



| Physical Properties | | | | | | | |
|---------------------|-----------|-----------|----------|--------------|---------------|------------------------|--------------------|
| | Dimension | | | | | | |
| Product | Length mm | Height mm | Width mm | Thickness mm | Weight Kg/pcs | Galvanization | Packing Pcs/Bundle |
| MC 38 | 2900 | 12 | 38 | 0.5 | 0.63 | 30 μ m (ASTM-B633) | 20 pcs |
| MC 38 | 2900 | 12 | 38 | 0.6 | 0.75 | 30 μ m (ASTM-B633) | 20 pcs |



38 mm Preformed Wire Clip

The wire clip is used to attach a furring channel to a main channel in a spring-loaded condition. Our precisely formed clip insures easy-installation and optimum grip.

Durability

Our 38 mm preformed wire clip conforms to the highest standards. It is made from high quality galvanized steel wire. The galvanized steel wire has a G90 / Z275 coating and confirm to the ASTM standards.

Packing

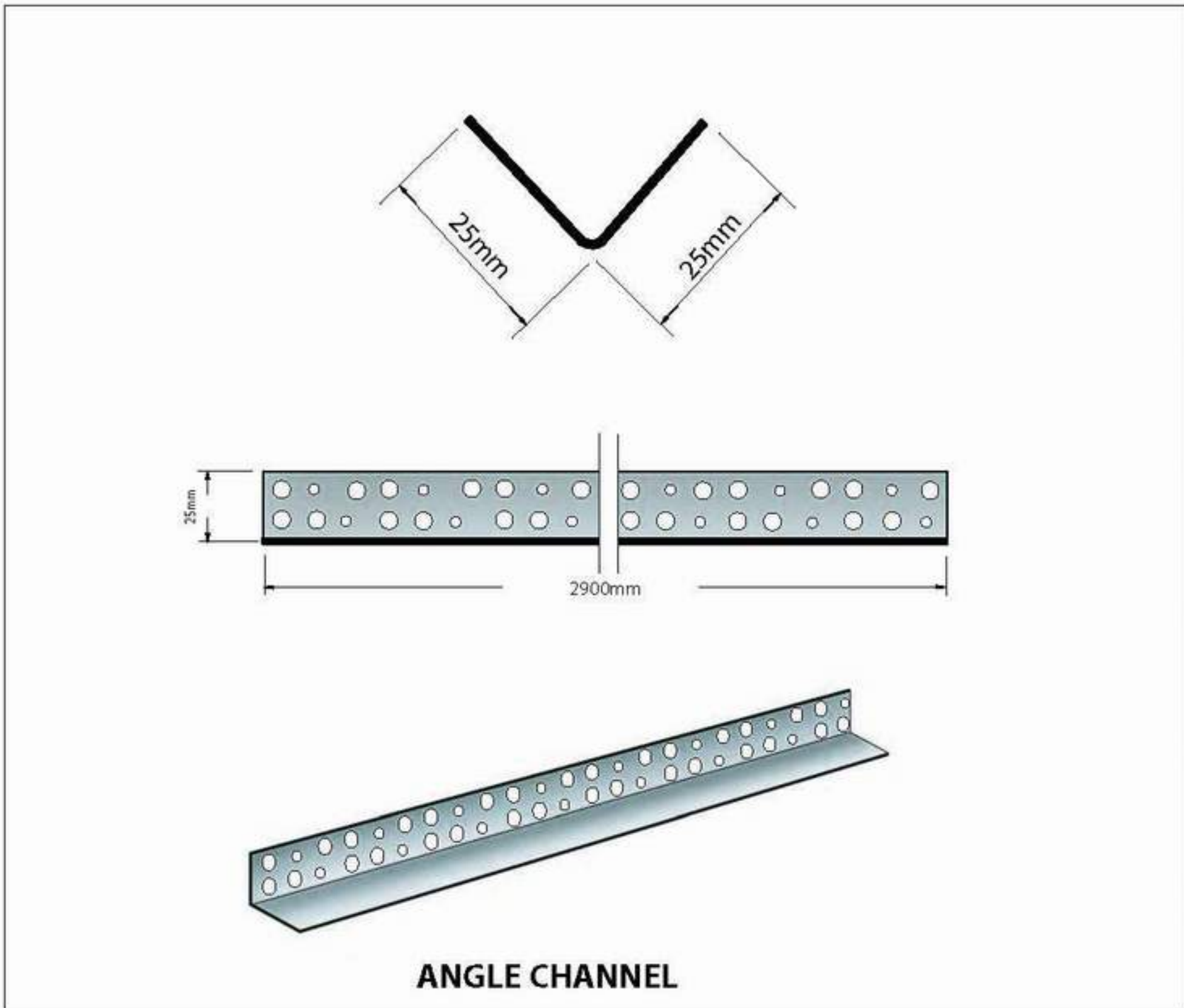
Our wire clips are packed in boxes of 1000 pieces each. The approximate box weight is 6 kg. If you have any special packaging requirements, we will accommodate them.

Bulk Quantities

We are mass-producing these wire clips. If you have bulk requirements, we are able to meet them at very competitive prices. Contact us for details.

Angle Channel 25x25 mm Specifications

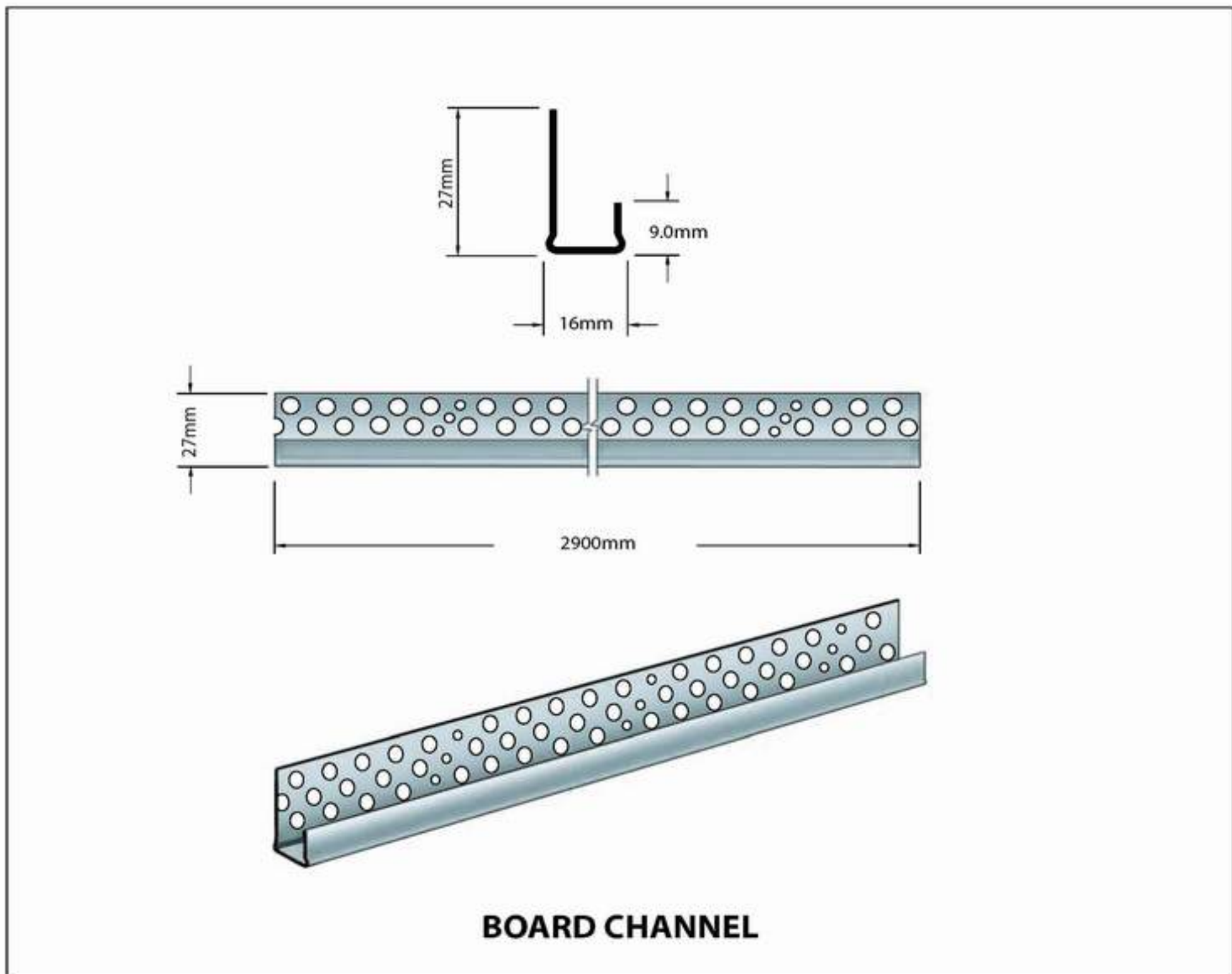
ATE manufactures Angles 25x25 in different standard sizes and stock lengths. This product's specifications sheet cover the 0.45, 0.50, 0.6, 0.7, 1.0 and 1.2 mm gages. However, if you have specific requirements with different gauges, leg sizes or lengths please contact us for a detailed offer.



| Physical Properties | | | | | | | |
|---------------------|--------------|--------------|-------------|-----------------|------------------|---------------------------|-----------------------|
| Product | Dimension | | | | | Galvanization | Packing Pcs/Bundle |
| | Length mm | Height mm | Width mm | Thickness mm | Weight Kg/pc. | | |
| AE 25 | 2900 | 25 | 25 | 0.45 | 0.2 | 30 μ m (ASTM-B633) | 20 pcs |

Board Channel Specifications

ATE manufactures Board Channels in different widths to accommodate different plasterboard sizes. Typically, they are manufactured with 0.45 mm thickness and leg sizes of 27 and 9.0 mm. However, custommade sizes are prior to order or request.



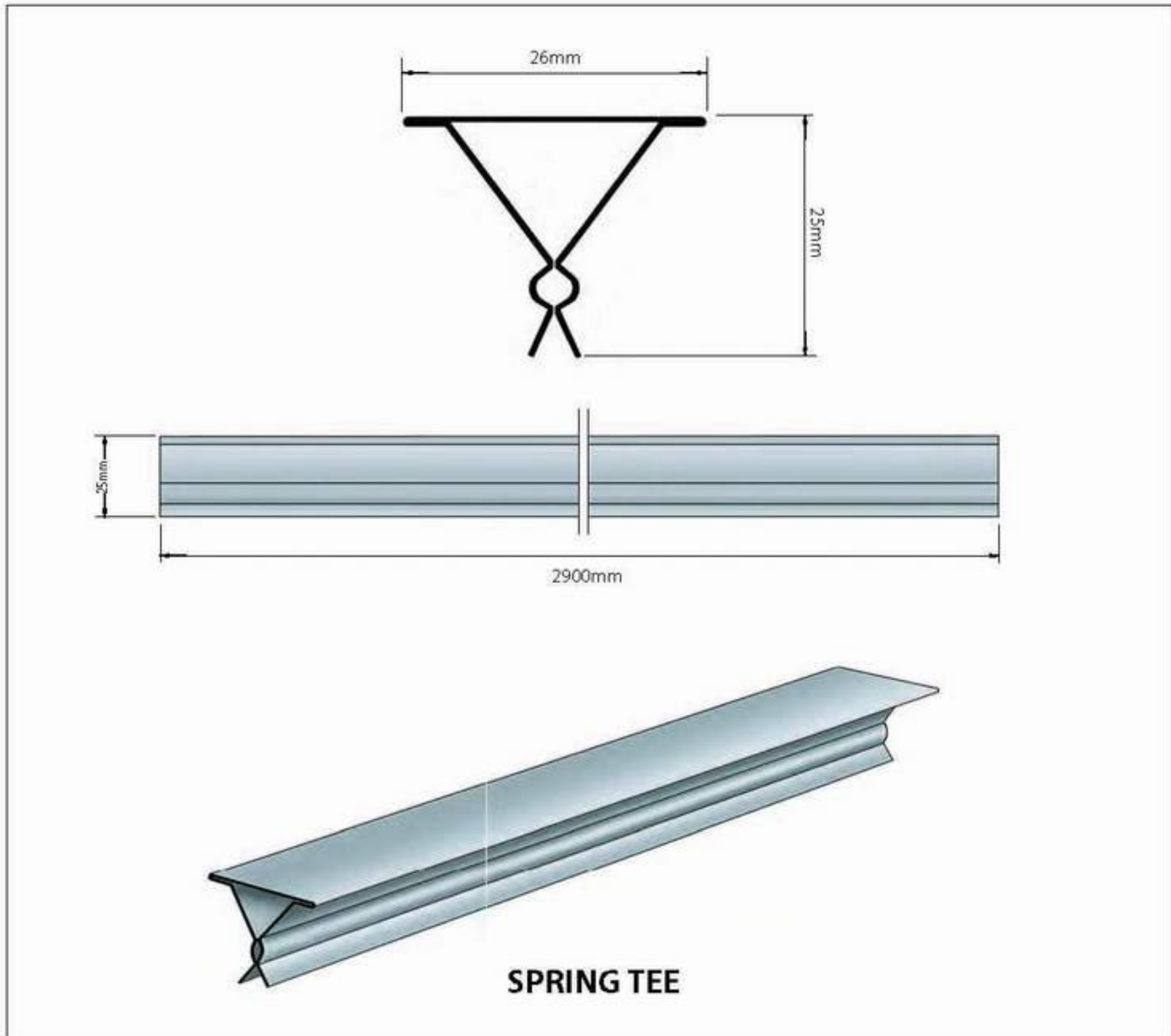
Physical Properties

| Product | Dimension | | | | | Galvanization | Packing Pcs./Bundle |
|---------|--------------|--------------|-------------|-----------------|------------------|---------------------------|------------------------|
| | Length mm | Height mm | Width mm | Thickness mm | Weight Kg/pc. | | |
| BC 27 | 2900 | 27 | 16 | 0.45 | 0.00 | 30 μ m (ASTM-B633) | 20 pcs |

Spring Tee Sections Specifications

ATE offers two variations of the Spring Tee profile:

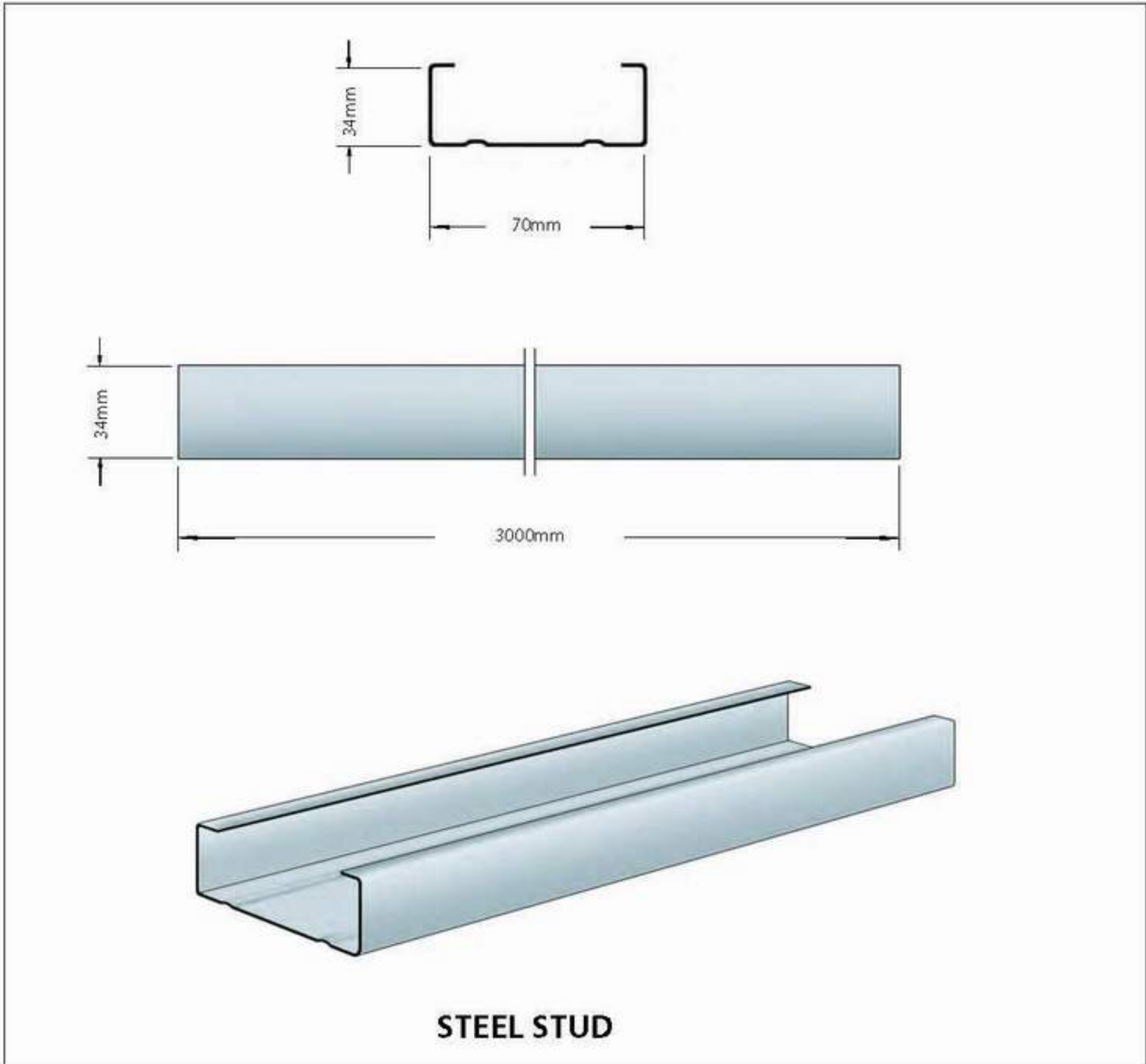
1. The Standard Spring Tee Profile (SST)
2. The Heavy Duty Spring Tee Profile (NST)



Physical Properties

| Product | Dimension | | | | | Galvanization | Packing Pcs./Bundle |
|---------|--------------|--------------|-------------|-----------------|------------------|---------------------------|------------------------|
| | Length mm | Height mm | Width mm | Thickness mm | Weight Kg/pc. | | |
| ST 25 | 2900 | 25 | 26 | 0.45 | 0.73 | 30 μ m (ASTM-B633) | 80 pcs |

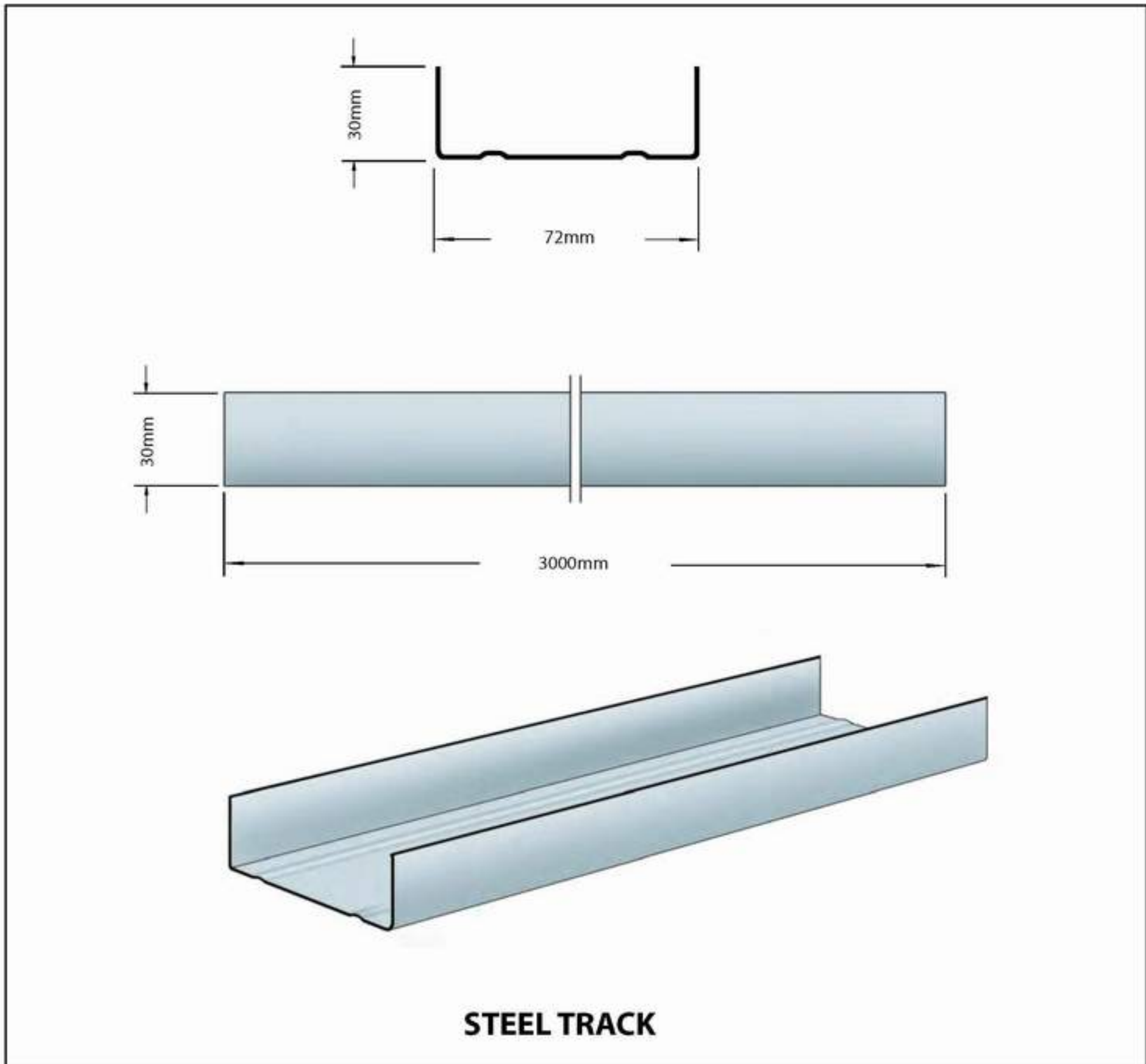
Steel Stud Specifications



Physical Properties

| Product | Dimension | | | | | Galvanization | Packing Pcs./Bundle |
|---------|--------------|--------------|-------------|-----------------|------------------|---------------------------|------------------------|
| | Length mm | Height mm | Width mm | Thickness mm | Weight Kg/pc. | | |
| Stud | 3000 | 34 | 70 | 0.45 | 1.52 | 30 μ m (ASTM-B633) | 10 pcs |

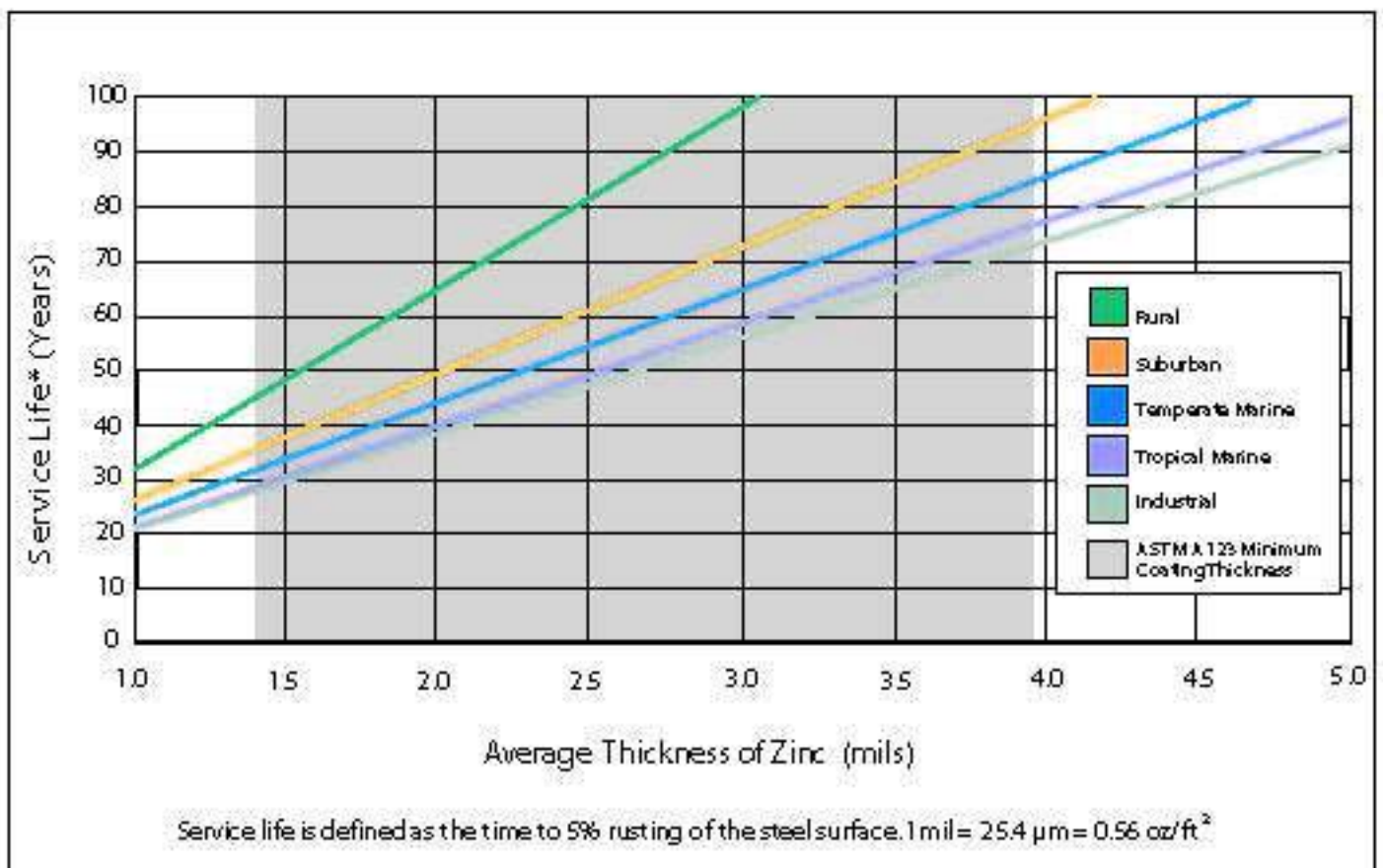
Steel Track Specifications



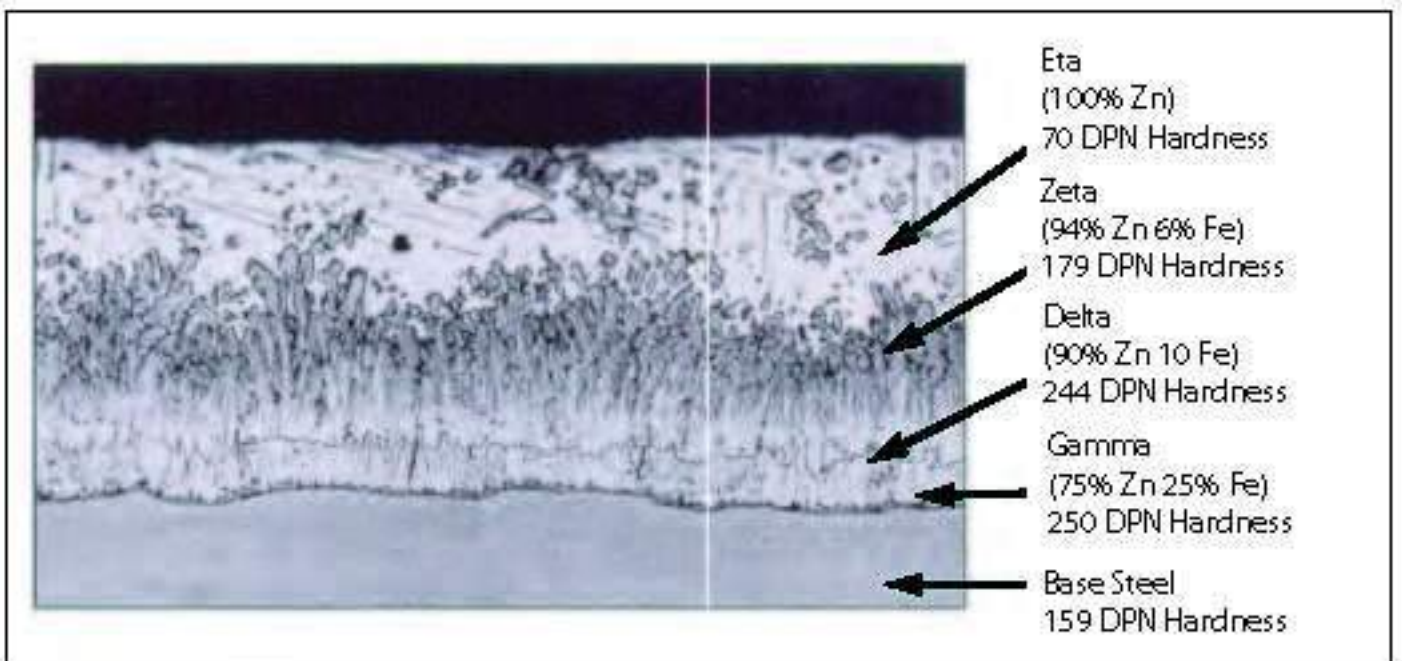
Physical Properties

| Product | Dimension | | | | | Galvanization | Packing Pcs./Bundle |
|---------|--------------|--------------|-------------|-----------------|------------------|---------------------------|------------------------|
| | Length mm | Height mm | Width mm | Thickness mm | Weight Kg/pc. | | |
| Track | 3000 | 30 | 72 | 0.45 | 1.27 | 30 μ m (ASTM-B633) | 10 pcs |

Service Life Chart for Hot-dip Galvanized Steel



Photomicrograph of Batch Hot-Dip Galvanized Coating



Comparison of Continuous Sheet & Hot-dip Galvanizing

| Continuous Sheet Galvanizing | | | | | Hot-dip Galvanizing | | | |
|---|--------------------|--------------------|------|------|---|------|-----|--------------------|
| Total Both Sides | | One Side | | | One Side | | | |
| Coating Grade | oz/ft ² | oz/ft ² | mils | µm | Coating Grade | mils | µm | oz/ft ² |
| G360 | 3.60 | 1.80 | 3.24 | 82.3 | 100 | 3.94 | 100 | 2.19 |
| G300 | 3.00 | 1.50 | 2.70 | 68.6 | 85 | 3.35 | 85 | 1.86 |
| G235 | 2.35 | 1.18 | 2.12 | 53.7 | 80 | 3.15 | 80 | 1.75 |
| G210 | 2.10 | 1.05 | 1.89 | 48.0 | 75 | 2.95 | 75 | 1.64 |
| G185 | 1.85 | 0.93 | 1.67 | 42.3 | 65 | 2.56 | 65 | 1.42 |
| G165 | 1.65 | 0.83 | 1.49 | 37.7 | 60 | 2.36 | 60 | 1.31 |
| G140 | 1.40 | 0.70 | 1.26 | 32.0 | 55 | 2.17 | 55 | 1.20 |
| G115 | 1.15 | 0.58 | 1.04 | 26.3 | 50 | 1.97 | 50 | 1.10 |
| G90 | 0.90 | 0.45 | 0.81 | 20.6 | 45 | 1.77 | 45 | 0.98 |
| G60 | 0.60 | 0.30 | 0.54 | 13.7 | 35 | 1.38 | 35 | 0.77 |
| G40 | 0.40 | 0.20 | 0.36 | 9.1 | Hot-dip Galvanizing: Coating grades are determined by the steel thickness and type. Coating grades correspond to minimum zinc coating thickness on one side. It is important to remember these are minimum coating thicknesses the galvanizer must achieve; However, thicker coatings are common, assuring conformance to specification. | | | |
| G30 | 0.30 | 0.15 | 0.27 | 6.9 | | | | |
| G01 | | | | | | | | |
| Continuous Sheet Galvanizing: The number following the "G" coating grade designation correlates to the total thickness of zinc applied to both sides of the steel sheet. | | | | | | | | |

Zinc Coatings and Applications

ZINC COATINGS

| Method | Process | Specification | Coating Thickness | Application |
|--------------------------------|--------------------------|--|---|---|
| Electrogalvanizing | Electrolysis | ASTM A 879 | Up to 0.28 mils ¹ (7.11 μm) | Interior; Appliance panels, studs, acoustic ceiling members. |
| Zinc Plating | Electrolysis | ASTM A 633 | 0.2 to 1.0 mils ² (5.1 to 25.4 μm) | Interior or Exterior; Fasteners and hardware items |
| Mechanical Plating | Peening | ASTM A 695 | 0.2 to 4.3 mils ² (5.8 to 109.2 μm) | Interior or Exterior; Fasteners and hardware items |
| Zinc Spraying (Metallizing) | Hot Zinc Spray | AWS C2.2 | 3.3 to 8.3 mils (83.8 to 210.8 μm) | Interior or Exterior; Items that cannot be galva- nized because of size or be- cause on-site coating applica- tion is needed |
| Continuous Sheet Galvanizing | Hot-Dip | ASTM A 653 | Up to 4.0 mils ¹ (101.6 μm) | Interior or Exterior; Roofing, gutters, culverts, automobile bodies |
| Batch Hot-Dip Galvanizing | Hot-Dip | ASTM A 123 ASTM A 153 ASTM A 767 CSA G 164 | 1.4 to 3.9 mils ³ (35.6 to 99.1 μm) | Interior or Exterior; Nearly all shapes and sizes ranging from nails, nuts and bolts to large structural assemblies, including rebar. |
| Zinc Painting | Spray Roller Brush | SSPC-PS Guide 2.00.22.00 SSPC-PS Paint 20 SSPC-PS 12.01 | 0.6 to 5.0 mils/coat (15.2 to 127 μm/coat) | Interior or Exterior; Items that cannot be galvanized because of size or because on-site coating application is needed. Large structural assem- blies. Aesthetic requirements. |

¹ Total for both sides of the sheet.

² Range based on ASTM minimum thicknesses for all grades, classes, etc., encompassed by the specifications.

³ Range based on ASTM and CSA minimum thicknesses for all grades, classes, etc., encompassed by the specifications.