

STEEL AND METAL WORKS

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- Steelwork and metalwork are specialist elements of the building and as such are normally the subject of a subcontract.
- E.g. Structural steel, metal windows, louvres, doors, shutters, stairs, balustrades, etc.

WINDOWS

- Metal windows: supplied to site complete and ready for fixing to a timber sub frame.
- Aluminum windows are supplied fully finished and often preglazed. Aluminum windows are delivered to site with tape protecting the finish and with labelling on the glass.
- Preglazed units will require careful handling, storing and placing in position, which is reflected in the rate.

METAL STAIRS AND BALUSTRADES

- Generally measured by number and by reference to a drawing or a manufacturer's catalogue.

PRICING OF STEEL AND METAL WORKS

- Steel and metal works is priced in the same units in which it is taken off.
- However, this causes some problems when considering the labour and equipment required to install the components.
- Material cost depends on weight, area, or length of the member, but the cost of labour and equipment depends more on the number of members to be placed.
- To obtain the labour and equipment costs one needs to know the amount of time it will take to install a certain quantity of material.

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- This cost is usually provided to the general contractor as a total lump-sum price from the fabricator or as a unit price per tone, unit of length or square.

Material

- The price of the material is available from manufacturers and fabricators.
- The contractor is usually quoted a lump-sum price for a item

Labour

- Steps and procedures to install the steel and metal items:
 - The steel members may have to be off-loaded.
 - Set in storage and inventoried or placed into its final position.
 - All detail works must be performed.
- All of these steps affect productivity.

Labour (cont' d)

- The estimator needs to know the following information to obtain the total costs:
 - Makeup of the crew
 - Wage rates of the various crew members
 - Productivity of the crew
- The information on crew size and productivity usually comes from historical data.

Equipment

- Depends on the type and size of the equipment and the number of hours it will be used.
- The type and size is determined by the contractor and is based on the weight to be lifted, the distance to be moved (both horizontally and vertically), and availability of the equipment.

Equipment (cont'd)

- The number of hours the equipment is needed depends on its productivity.
- This is related to labour productivity and comes from the company's historical records.
- The estimator should not forget to consider related equipment costs such as transportation, mobilization and demobilization.