



**Israel Electric Corp. Ltd.
Engineering Projects
Transmission Lines Division
Transmission Lines Engineering Headquarter**



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**SPECIFICATION K-2580
FOR STRUCTURAL STEEL, ANGLES,
CHANNELS, PLATES, STEEL RODS,
FLAT PROFILES, AND STRIPS**

SPECIFICATION K – 2580

**FOR STRUCTURAL STEEL,
ANGLES, CHANNELS, PLATES,
STEEL RODS, FLAT PROFILES,
AND STRIPS**

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Appendices:

1. Standard specification for quality control Q-APP-02-PR rev. 5.



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1. GENERAL

This document outlines the Israel Electric Corporation's (a.k.a. I.E.C.) specifications for supplying structural steel components — including angles, channels, plates, rods, flat profiles, and strips — intended for the construction of towers and various structures.

It details the required manufacturing characteristics, dimensions, delivery procedures, shipping marks, bundling, quality control measures, and necessary documentation for both tender publication and order placement.

In instances of discrepancies or non-conformities between documents, the following hierarchy of precedence applies: first, this specification; followed by relevant DIN and EN standards.

2. THRESHOLD CONDITIONS

Threshold conditions should be in accordance with the attached documents of the procurement division.

3. DOCUMENTS FOR THE PROPOSAL

The bidder should submit together with his offer the following documents:

1. Valid ISO 9001 certificate of manufacturer as defined in the threshold conditions.
2. If the tender is required to provide galvanized items in a hot dip zinc galvanizing process, a valid ISO 9001 certificate of the galvanization plant should be submitted.
3. A declaration indicating that the proposal fully satisfies the requirements of this specification.
4. The name and origin country of the manufacturer of the steel, which is proposed by the bidder.



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5. The bidder will fill the following table (a line for each bid):

Item no. acc. Bid documents	Type of steel	Manufacture Standard dimensions. (para.4)	Applicable Tolerance [mm] (Para. 5)	Structural steel designatio n standard (para.6)	*Si (%) content 0.14- 0.25 or less than 0.03, and P content (para.6)

4. MANUFACTURING STANDARDS:

Dimensions, Shape & Tolerances

The dimensions and tolerances of items must conform to the following standards:

4.1 Angle Profiles

Hot Rolled Round Edge Equal Angles - according to DIN 1028, EN 10056.

Hot Rolled Round Edge Unequal Angles - according to DIN 1029, EN 10056.

4.2 Channel Profiles

Hot Rolled Round Edge/Channels - according to DIN 1026, EN 10279.

4.3 I & H Profiles

Hot Rolled I & H profiles – according to DIN 10034.

4.4 Hollow Section Profiles

Hot Rolled hollow sections: RHS, SHS, CHS – according to DIN 10210



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4.5 Flat Profiles and Strips

Hot Rolled Flat Steel for General Purposes 5/10-60/150 – according to DIN 1017-1.

Hot Rolled Wide Plates 5/150-60/1250 – according to DIN 59200.

Hot Rolled Strips, Hot Rolled Sheets 0.8/10-10/120 – according to DIN 1016, EN 10048.

4.6 Plates

Hot Rolled Plates (3 mm to 150 mm thick) –

according to DIN 1543, EN 10029.

Cold Rolled Plates under 3 mm thick - according to DIN 1541, EN 10131.

4.7 Steel Rods

Hot Rolled Round Steel for Special Purpose - according to DIN 1013, EN 10060.

Hot Rolled Squares for General Purpose - according to DIN 1014, EN 10059.

4.8 Steel Bars

Hot rolled flat steel bars -according to DIN EN 10058.

4.9 Galvanized Strip Sheets

Galvanized strip sheets with thicknesses of 0.35 mm to 3.0 mm:

Continuously hot dip coated strip and sheet of low carbon steels for cold forming -
according to DIN EN 10143.



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5. LENGTHS & APPLICABLE TOLERANCES

5.1 Angle Profiles

1. Steel Angles from steel S235JR in 3m., 6m., 9m., and 12 m.. lengths –
Length tolerance: +100 mm/-0 mm.
2. Steel Angles from high quality steel S355J0, S355J2 in 3m., 6m., 9m., and 12 m. lengths.
Length tolerance: + 100 mm/-0 mm.

5.2 Channel Profiles

1. Channels in 6 m., 8.5 m., 9 m., and 12 m. lengths.
Length tolerance: + 100 mm/-0 mm.

5.3 Flat Profiles and Strips

1. Flats and Strips in 3.0 m., 3.5 m., and 4.0 m lengths.
Length tolerance according to the above listed standards

5.1 Plates

1. Width of plates: from 1 m up to 2.5 m.
The lengths should be as specified in the order.
Length tolerances should be according to the above listed standards.



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6. MATERIAL - STRUCTURAL STEEL DESIGNATION STANDARD

6.1 General

Designation of steel will conform to DIN 17100, DIN EN 10025 – part 1 and 2. ("Steel for General Structural Purposes").

The steel will be "suitable for hot galvanizing", and suitable for welding.

The steel will have Si (silicon) and P (phosphorus) contents as follow:

$Si \leq 0.03\%$ and $(Si + 2.5P) \leq 0.09$

or

$0.14\% \leq Si \leq 0.25\%$ and $P \leq 0.035\%$.

6.2 Designation of steel

6.2.1 For all the Items:

Steel S235JR, S355J0, S355J2:

According to European standard - EN10025-2.

6.2.2 For Hot Rolled Round Edge Equal Angles possible to offer:

Steel S355J0, S355J2:

According to European standard - EN10025-2.

6.2.3 Galvanized strip sheets with thicknesses of 0.35 mm to 3.0:

Steel DX51D+ Z - according to DIN EN 10326 or DIN EN 10346.

6.2.4 Cold rolled plates under 3 mm thicknesses:

Steel DC01 - according to DIN EN 10130.



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7. Galvanizing

This Paragraph is intended for plates, rods, and steel profiles that will be purchased galvanized in advance.

Galvanizing plant should have a valid ISO 9001 certificate. The certificate should be valid for hot deep galvanizing of steel.

Galvanizing should be according to ASTM A123/A 123M-09, or EN ISO 1461:2009.

The zinc coating should be uniform thickness, clean, smooth, and free from spangles as possible. Galvanizing should be applied by hot deep process and the coating thickness is as follow:

Material	Coating thickness of hot zinc (micron)
Steel more than 8 mm thickness	85
Steel from 5 to 8 mm thickness	70
Steel from 3 to 5 mm thickness	55
Steel less than 3 mm thickness	50

The manufacturer's inspection certificate for hot-dip galvanized coatings should include the following information:

- Purchase order number
- Date of inspection
- Number of pieces tested for thickness of zinc coating, and the maximum, minimum and average thickness of each.
- Number of pieces tested coating adherence.
- Number of rejections, because of defective coating and other reasons.

The certified test reports should be submitted to I.E.C.



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8. PACKING

All items must be sorted and securely tied using double galvanized steel bands with a minimum width of 2", ensuring uniform thickness, width, length, and material type in each bundle.

Each bundle must not exceed a maximum weight of 2,500 kg.

For angles and channels – each bundle should contain a maximum of 25 pieces. Any bundle exceeding this amount requires prior approval from I.E.C.

Bundles of angles measuring 3m. length must be fastened at a minimum of two evenly spaced points using double galvanized steel bands with a minimum width of 2".

Bundles of angles measuring 6m., 9m. and 12m. length must be fastened at a minimum of three evenly spaced points using double galvanized steel bands with a minimum width of 2".

Bundles of channels measuring 8.5m., 9.0m., and 12.0 m. length must be fastened at a minimum of four evenly spaced points using double galvanized steel bands with a minimum width of 2".

Bundles of rods measuring less than 3m. length must be fastened at a minimum of two evenly spaced points using double galvanized steel bands with a minimum width of 2".

Bundles of rods measuring more than 3m. length must be fastened at a minimum of three evenly spaced points using double galvanized steel bands with a minimum width of 2".

Steel sheets and plates with a thickness of less than 3 mm should be packed on a platform consisting of deck boards and runners, secured with double galvanized steel bands (minimum width: 2"). The deck boards must match the full width and length of the unit and have a minimum thickness of 25 mm.

Steel sheets and plates with a thickness exceeding 3 mm must be packed and secured using double galvanized steel bands with a minimum width of 2".



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A plastic or metal tag with the following details must be attached to every bundle:

1. Name of item
2. I.E.C. catalogue number
3. Steel quality
4. Name of Manufacturer
5. Number of items per bundle
6. Dimensions of items (thickness, width, length and tolerance)
7. Purchase order no.
8. Weight of bundle

9. MARKING

To ensure clear identification of S355J0 and S355J2 steel profiles, each piece should be distinctly marked with its respective grade — either "S355J0" or "S355J2" — using legible paint markings. Additionally, the ends of the profiles should be painted white to facilitate easy differentiation.

10. QUALITY ASSURANCE

Manufacturer Quality Assurance Program should meet the requirements as described in chapter 2.

11. QUALITY CONTROL

Quality control requirements will be according to I.E.C standard Q-APP-02.



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12. DELIVERY APPROVAL CONDITIONS

Prior to shipment, the supplier is required to provide original mill certificates in accordance with DIN 50049 and DIN EN 10204 standards, detailing the steel's chemical composition, tensile strength, and elongation properties as specified in DIN 17100, DIN EN 10250 Parts 1 and 2, and DIN EN 10327. These certificates must be signed by the testing laboratory and presented in English.

The Israel Electric Corporation (I.E.C.) reserves the right to conduct quality acceptance tests either at the manufacturing facility or upon the steel's arrival at I.E.C. stores. The results of these tests will determine the acceptance or rejection of the shipment.

It's important to note that these inspections do not absolve the supplier of responsibility for the material's quality or any deviations from the specified requirements. If the supplied steel fails to meet I.E.C.'s requirements, the local representative will be invited to propose a resolution. Any additional expenses incurred will be the supplier's responsibility, not I.E.C.'s.



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13. REVISIONS

1. Page no. 4 - para. 3.4 - added plates according to DIN 1543 (12/88).
2. Page no. 4 - para. 4.3 - added new channel 9 m length (5.10.89).
3. Page no. 1 - changed the name.
Page no. 2 - Changed the names of para. 5 and para. 6.
Page no. 3 - added the quantity of silicon.
Page no. 5 - additional comments.
Revision dated October 1990.
4. Page no. 3 - para. 2 - alteration of galvanizing requirements and silicone contents.
Revision dated January 1991.
5. Page no. 5 - quality assurance requirements were removed adherence to the
"Standards Quality Assurance Requirements" 02-1G was added.
Revision dated January 1995.
6. Page no. 5 - quality assurance requirements were removed adherence to the
"Standards Quality Assurance Requirements" 03-1A was added. Revision dated
January 1995.
7. Page no. 6 - added technical documents to be submitted by the bidder with the
date
of submitting the bid. Revision dated March 1995.
8. Page no. 5,6 - added requirements according to ISO 9002.



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9. Revision in Hebrew version of spec. Added silicon quantity in summary table of para. 7 - August 1998.

10. Revision of silicon quantity in para.2 and para.7.

Added type of steel comparable to European standard EN10025, EN10027.

Revision dated October 1998.

11. Changed type of steel comparable to European standard EN10025, EN10027

Revision dated November 1998.

12. Add requirements for ISO in para.2.

Specification was overwriting according to a new format.

13. Removed the demand that number of pieces per bundle package is to be equal and in multiples of 10 units (for light profiles) and 5 units (for heavy profiles). Para.7.

Threshold conditions removed from specification to the attached document Para. 2

Revision dated July 2005.

14.. Changed type of steel comparable to European standard EN10025 2:2004.

Revision dated January 2007.

15. Changed ISO 9002 to ISO 9001:2008

Revision dated December 2009.

16. Added Galvanized strip sheets with thicknesses of 0.35 mm to 3.0 mm.

Changed the ST 52-3N comparability to EN 10025:2004 (Page 6.).

ISO was formulated newly. Added demands for packing.

Revision dated March 2011.



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17. Added material DC01 for Cold rolled plates under 3 mm thicknesses
- according to DIN EN 10130.

Para.6

Revision dated September 2011.

18. Galvanizing – added, Phar. 3 – updated.

19. Manufacturing and packing standards – updated.