# PVC PIPES FOR UNDERGROUND
## ELECTRIC CABLES

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1. **SCOPE**

1.1. **Scope of supply**

The scope of supply consists of the manufacturing; testing, preserving, packing and furnishing of PVC conduits – "pipes".

<table>
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<tr>
<th>I.E.C cat. No.</th>
<th>Pipe size (mm)</th>
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<tr>
<td>3749165</td>
<td>110</td>
</tr>
<tr>
<td>3749157</td>
<td>160</td>
</tr>
<tr>
<td>3749173</td>
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</table>

1.2. **Uses**

For protection of underground electrical cables.

1.3. **Utilizations**

- Underground network.
- House connection.

2. **THRESHOLD CONDITIONS**

Acc. to the attached documents of the supply and storage division.

3. **DOCUMENTS AND SAMPLES FOR THE PROPOSAL**

In order to enable IEC to check the offer, the bidder shall submit together with his offer the following documents and samples from of his production, accompanied by test reports and details technical explanations:

3.1. Valid ISO 9001/2008 certificate given by an authorized inspection agency or Israeli Standard Organization QA approval as defined in threshold conditions.

3.2. Reference list included all the clients and quantities for each type of pipes which have been supplied by the manufacturer in the last 5 years.

3.3. Three (3) sets of valid type test reports according to Israeli Standard – SI 61386-24 or IS mark approval.

3.4. Three (3) sets of mounting instructions.

3.5. Three (3) sets of Quality Assurance manual including quality procedures.

3.6. Three (3) sets of technical data of the PVC material used in the fabrication.

3.7. Three (3) sets of detailed drawings for each of the items offered. The drawings must be detailed to the fullest (including: manufacturer's part number, standard of manufacturing, dimension, tolerance, material, marking etc.).

3.8. A written statement by the bidder in which he undertakes to conform to all the requirements of the specifications and tender's documents.
4. MANUFACTURING STANDARDS

The PIPE shall be designed, manufactured and tested according to the requirements of this specification, taking into consideration the recommendations and requirements of the latest editions of the following standards:

SI 61386-24 –Plastic conduits systems for electric and communication installations: Buried underground installation.

REMARKS:
- IEC reserves the right not to evaluate and not to refer to fuse link not conforming to the standards and not tested in according with above-in mentioned standards.
- If the present specification contains requirements which differ from those of the above mentioned standards, the requirements of this specification shall take precedence.

5. TECHNICAL REQUIREMENTS

5.1. The PVC material shall be self-extinguishing.
5.2. The pipes shall be suitable for uses of electric cables protection – with a minimum temperature rise of 70 C.
5.3. The pipes shall be SN=8 acc. to I.S. 61386-24.
5.4. The pipes length: 6 m with the tolerances: -0, +100 mm.
5.5. The pipes shall be: 450 N for 110 and 160 mm and 750 N for 225 mm, acc. to I.S. 61386-24.
5.6. The pipes shall be produced with the socket in one ending acc. to I.S. 61386-24, and supplied without the gummy sealing.
5.7. Wall thickness:
   - For pipe diameter 110 mm: 3.2 mm.
   - For pipe diameter 160 mm: 4.7 mm.
   - For pipe diameter 225 mm: 6.9 mm.

6. TESTS

According to SI 61386-24.

7. MARKING

Each pipe will have durable, lasting. The following information shall be marked:
- Marking according to standard SI 61386-24.
- Marking of: "חברת החשמל" or "Israel Electric Corporation" on every maximum 1m + optional wall thickness in mm.
- Color: gray (markings in black).
8. PACKING

8.1. Each package shall be fixed by:
- For **110** and **160 mm**: a wooden frame of 7.5 X 7.5 cm on each side (totally 2 frames) and metallic strips + additional two metallic strips in the middle.
- For **225 mm**: a wooden frame of 7.5 X 7.5 cm on each side and one in the middle (totally 3 frames) and metallic strips

8.2. No. of pipes in every package:
- 110 mm: 68
- 160 mm: 28
- 225 mm: 15

9. QUALITY ASSURANCE

The manufacturer Quality Assurance Program meets the requirements described in ISO standard 9001 and IEC specifications.

10. QUALITY CONTROL

Quality control requirements will be according to I.E.C. standard Q-APP-02 Rev. 4.

11. PROTOTYPE APPROVAL

After notification of award, and before production of all ordered items, the Contractor shall send to IEC approval the following data:

11.1. Three (3) samples of 1 m length.

11.2. IS mark approval: the producers who in the technical stage didn't have the IS mark approval will receive a period of 4 months in order to achieve the requested mark approval.

11.3. Drawings.

11.4. QA approval.

11.5. The Contractor shall be responsible to conduct successfully all the necessary tests, and to deliver to the Israel Electric Corp. all the necessary required reports, in a manner, which will not interfere with or delay any of the time schedules, pertaining to any action or undertaking, required of the winning bidder, including, but not limited to delivery schedule. Such responsibility shall include proper and reasonable advance notifications to the Israel Electric Corp., prior to any action, required of it.

**REMARK:** The Israel Electric Corp. reserves the right to cancel the order for the supply of equipment if the prototype will not be approved by the Israel Electric Corp. In any case, the Contractor shall not resume manufacture of the rest of the ordered equipment before receiving the Israel Electric Corporation's final approval of the prototype.
12. **DELIVERY APPROVAL CONDITIONS**

The successful bidder (henceforth referred to as "the contractor") shall submit for I.E.C approval:

12.1. Contractor shall submit test reports according clause 6 in the specification before each delivery.

   If the contractor fails to fulfill in the above requirements, in accordance with the terms of the tender documents and/or the order/contract within the periods above, it shall constitute a substantial breach, entitling the I.E.C. to be paid liquidated damages according to Annexure "A", and to pursue all other remedies available under the law for a substantial breach of contract.

12.2. Acceptance test:

   The I.E.C reserves the right to verify the compliance of the delivered items with this specification.

   Delivery which will not pass acceptance test will be rejected.
APPENDIX "A"

APPENDICES FOR CONTRACTS / ORDERS QUALITY REQUIREMENTS
Q – APP – 02/4 (03/2011)

1. GENERAL

1.1 In addition to the provisions of the General Conditions – Annexure "A" and without derogating from the generality there, the Quality Requirements as specified in this document constitute an integral part of the Contract between the Purchaser and the Contractor. Implementing these requirements shall not constitute any base/reason, for the Contractor to change the Contract schedule and/or price.

1.2 The Contractor shall make all the necessary arrangements and prepare all the required and necessary means to enable IEC’s Quality Control Unit Representative (see clause 2) to review, observe, audit, inspect, test and survey the Work - at any facilities where Work or any part thereof is performed, including those of Contractor and Sub-Contractors, without any additional cost to the Purchaser or any change in the Contract schedule.

1.3 The Contractor shall nominate, as part of the execution of the Contract a quality engineer or a quality specialist to control and manage the quality requirements of the Contract. This person shall have the authority and responsibility with respect to all quality requirements of the Contract (including notifying the Purchaser about inspections, tests, etc.) and shall serve as Purchaser's liaison for quality matters.

1.4 The Contractor shall be responsible that all of the Contract’s quality requirements are known, accepted and performed by its Sub-Contractors. Special attention should be given to Contractor's procurement control and its Sub-Contractor's design control, process and manufacturing control, purchasing control, nonconforming material/events control and inspection notification. Upon Purchaser's request Contractor shall submit un-priced copies of purchase orders pertaining to the Work/Contact.
2. DEFINITIONS, CLASSIFICATIONS AND ABBREVIATIONS

2.1. CORRECTIVE ACTION (CA) – As defined in ISO 9000:2005.

2.2. QUALITY PLAN (QP) - Plan, prepared by the Contractor especially for the Contract, in accordance with ISO 10005 which covers all Contract stages.

2.3. INSPECTION AND TEST PLAN (ITP) – a plan, specifying all the inspections and tests for the Work throughout all Contract stages (from its initialing through design, in process inspection, type tests, product qualification, first article inspection, final inspection/s and test/s, packing, transportation and supply to the Purchaser, erection - including Site Acceptance Test and commissioning). ITP shall also specify Witness and Hold Points.

2.4. WITNESS POINT (WP) - a planned visit of the QCUR for purposes indicated in clause 1.2 for specific point of the ITP or Quality Plan.

2.5. HOLD POINT (HP) – the same as WP but with the distinction that the Contractor is not permitted to proceed with its planned activities without having received Purchaser’s written approval.

2.6. NON CONFORMANCE (NC) - deviation from any specified Contract requirement/s and/or from any quality characteristic of the Work.

2.7. NON CONFORMANCE REPORT (NCR) - a report, on Contractor’s numbered serial form, describing the details of a Non conformance, from its detection through disposition and corrective action(s).

2.8. QUALITY CHARACTERISTIC – Any identifiable property of the Work (i.e. physical, chemical, functional, visual, technical, environmental, economical, statistical, legal etc.)

2.9. WORK - Scope of the Contract and the means to execute it.

2.10. QCUR - the Purchaser's Quality Control Unit Representative and/or any authorized representative of it.

2.11. SPECIAL PROCESS - Irreversible manufacturing processes or processes which require special or specific tools.
3. QUALITY PLAN AND INSPECTION AND TEST PLAN

3.1 The Contractor shall prepare QP and ITP for all stages of the Contract. These plans shall be submitted to the Purchaser for approval within fourteen (14) days of initialing of the Contract by the parties. Contractor shall not amend, change or alter any part of the QP and/or ITP without the prior written approval of the Purchaser.
Note: ITP shall conform to Exhibit ‘A’ attached hereto or any other form approved by the Purchaser.

3.2 Contractor shall not commence work prior to receiving Purchaser’s written approval to the QP and ITP.

4. DOCUMENTATION

4.1 The Contractor shall submit to the Purchaser for review, along with the QP and ITP, its quality and manufacturing/operations procedures that pertain to the Work execution. The Purchaser has the right to receive explanations with respect thereto. Contractor shall provide Purchaser with all amendments and/or updates of documentation.

4.2 Special documents such as process procedures and inspection/test procedures written specifically for the Contract shall be submitted to the Purchaser, for review, comment and approval in accordance with Contract until the date agreed in there, but not less than twenty-one (21) days prior to its use.

4.3 The Contractor shall submit to the Purchaser, for review, comment and approval (as required by the Contract) all the process qualifications and the employees certifications for special processes which pertain to the Work and are relevant to the Contract execution.

4.4 Supplying Work which is not manufactured by the Contractor (under Contract terms) and which he has no control over the manufacturing process, shall not derogate from Contractors responsibility to supply the Purchaser with the documentation and quality records as indicated in Articles 4 and 7.

5. INSPECTIONS AND TESTS

5.1 The Contractor shall have available all test and inspection equipment and/or any other means, required in Purchaser’s opinion, for the execution of Work and ITP.
5.2 If Contractor uses the services of a Sub - Contractor to carry out any test/inspection required by the Work, only inspection companies certified to EN 45004 (level A or C) are acceptable.

5.2.1 Type test, Routine Test and Sample test shall be carried out according to Contract requirements.

5.3 Any other qualification test (for mechanical equipment) shall be carried out in the presence of the QCUR, followed by all quality records. The serial manufacturing shall commence only after 1st Article/piece test have successfully carried out witnessed by the Purchaser's QCUR.

6. INSPECTION NOTIFICATION

6.1. The Contractor shall indicate each inspection/test and notify the Purchaser of it in advance. An ITP schedule (on a GANT form) shall be prepared by the Contractor, within six (6) weeks after initialing of the Contract. Indications of inspection/test dates may in any event not be less than six (6) weeks in advance. Both inspection/test notification and ITP schedule shall be reported to the Purchaser's Project Management. In addition to the above ITP schedule, Contractor shall submit to Purchaser a final notice of planned tests/inspections not less than twenty-two (22) Israeli working days in advance.

6.2. Should Contractor fails to notify the Purchaser of a planned inspection/test, as required, or in the event Contractor carries out a test/inspection without the required presence of the QCUR, Purchaser shall have the option of demanding that Contractor re-perform the test/inspection in the presence of QCUR at a time convenient to Purchaser and at no additional cost..

7. QUALITY RECORDS

7.1. The Quality Records stipulated in this clause shall be, either in Hebrew, in dual/multi-language form with English, in English only, or if not available translated to English by Contractor.

7.2. Contractor shall submit to the Purchaser copy of the quality records documenting the inspections, tests or other quality operations of the Work, as indicated in the ITP, QP and the Contract. All quality records of skipped or missed WP and/or HP shall be submitted to Purchaser immediately after their generation.

7.3. All Test and Inspection Certificates/ Reports of materials, operations and or inspection/test, purchased or carried out for the Work and/or required by the applicable Standards, shall be submitted to the Purchaser immediately following their generation. These Certificates/Reports shall be original, in accordance with
EN 10204:2004-3.1, containing actual measured values, signed and attested by Contractor. For any other document type, Contractor has to get Purchaser permission in advance.

7.4. Contractor shall make available to Purchaser upon its request, for review and comment, at Purchaser’s premises or other mutually agreed place (in Israel), the quality records of any - Type test, Routine test, Qualification test, First Article Inspection/Test, Process qualification, Special process and/or any other inspection/test/examination required by Purchaser, after initialing of the Contract, to evaluate the Work (at all stages) regardless of the QP and the ITP.

7.5. Submission of the documents and quality records, regarding the Equipment to which the documents relate, to Purchaser, as specified in Articles 4 and 7, shall be a condition, precedent to shipment by Contractor and payment by Purchaser.

7.6. Quality records of inspections/tests and/or of process control and process evaluation pertaining to a Work such as shelf item, standard Equipment and/or already completed Equipment to be supplied to Purchaser between 30 to 120 days after execution of the Contract, shall be immediately submitted to the Purchaser or at least 60 days prior to packing for shipment, respectively.

8. HANDLING OF NONCONFORMANCES AND CORRECTIVE ACTIONS

8.1. It is Purchaser's policy to reject Work and/or Goods that do not conform to all contractual requirements, unless acceptance is in the best interests of Purchaser. Acceptance of nonconforming Work or Goods is the sole prerogative of Purchaser.

8.2. It is the Contractor’s obligation to report to Purchaser about any nonconforming item/event which pertain to the Work and are relevant to Contract execution.

8.3. If the Contractor fails to report about a non conformance on time, Purchaser may request Contractor to dismantle the nonconforming Work (to witness the NC) with no additional cost. The documentation and quality records concerning this NC shall be immediately submitted to the Purchaser.

8.4. Each NC should be followed by corrective action/s (CA). A NC which is not followed by CA shall be rejected.

8.5. Deviating from 8.4 can cause stoppage of the Work and its rejection till the proper CA is taken by the Contractor.
**EXHIBIT A**

**I&T Plan FORM**

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<thead>
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<th>No.</th>
<th>THE INSPECTION TEST</th>
<th>APPLICABLE DOCUMENTS</th>
<th>WP/HP OR OTHER</th>
<th>INSPECTED / TESTED BY</th>
<th>THE REPORT / CERTIFICATE AND ITS REF. STD/PROCEDURE</th>
<th>REMARKS</th>
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<td></td>
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<td>SUB-CONTR./SUPP CONTR-Actor</td>
<td>PURCH-ASER OTHER</td>
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**APPROVAL BY THE CONTRACTOR’S QUALITY ASSURANCE/CONTROL**

**NOMENCLATURE:**