

**Saudi Standards, Metrology and Quality Org.**

**SASO**

**Technical Regulation for Building Materials - Part 5 : Pipes used  
in Water, Electricity and Gas Networks**

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**Note:**

**Only the Arabic version of this Regulation is authentic in law and is  
applicable where there are differences with this translation**

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## Preamble

In line with the accession of the Kingdom of Saudi Arabia (KSA) to the World Trade Organization (WTO), as per the Decree No. 244 of the Council of Ministers, dated 21/09/1426 A.H., concerning the approval of documentation on the Kingdom's accession to the WTO, and the requirements by which the KSA shall adapt its relevant systems with the principles of WTO agreements, particularly, the Technical Barriers to Trade (TBT), which stipulates that no unnecessary technical requirements shall impede the flow of commodities among the member states, and that technical requirements and methods of conformity assessment shall not discriminate between products on the basis of origin, through the issuance of Technical Regulations that include the essential requirements and standardized business procedures.

In accordance with Article 3 (Clause-1), Statute of Saudi Standards, Metrology and Quality Organization, issued in accordance with the Council of Ministers Decree No. 216, dated 17/06/1431 A.H. (31/05/2010 A.D.), stipulating that: **“SASO Shall issue Saudi standards, quality systems and guidelines and conformity assessment, compatible with international standards and guidelines, that meet the requirements of the World Trade Organization (WTO) Agreement, in addition to their compliance with Islamic Sharia and serving the interests of Saudi Arabia”;**

In accordance with Article 4 (Clause-2), Statue of Saudi Standards, Metrology and Quality Organization, issued in accordance with the Council of Ministers Decree No. 216, dated 17/06/1431 A.H. (31/05/2010 A.D.), stipulating that: **“SASO Shall issue regulations for conformity assessment procedures of commodities, products, and services according to approved standards”;**

In accordance with Article 4 (Clause-14), Statue of Saudi Standards, Metrology and Quality Organization, issued in accordance with the Council of Ministers Decree No. 216, dated 17/06/1431 A.H. (31/05/2010 A.D.), stipulating that: **“SASO Shall review the laws and control regulations related to SASO's work fields, and develop them, and propose amendments thereto in line with quality and safety requirements, and refer them to competent bodies in order to review and issue them, in accordance with applicable procedures”;**

In accordance with Article 6 (Clause-1), Statue of Saudi Standards, Metrology and Quality Organization, issued in accordance with the Council of Ministers Decree No. 216, dated 17/06/1431 A.H. (31/05/2010 A.D.), stipulating that: **“ subject to Article 4 of this Statute, SASO s shall be the authority in charge of matters related to standards, conformity assessment procedures, granting the quality mark, metrology and calibration. All public and private sectors shall adhered to the Saudi standards in all purchases”.**

Whereas the standards of the products included in a regulation shall be a basis for the conformity of such products with the essential safety requirements included in the specified regulation.

Therefore, SASO has developed this Technical Regulation.

**Note:** This preamble and all the annexes of this regulation shall form an integral part thereof.

## **Article (1): Terms and Definitions**

**1/1** Nomenclatures and expressions hereunder – during the application of this Technical Regulation - shall have the meanings indicated in front thereof, unless the context requires otherwise:

**The Kingdom:** Kingdom of Saudi Arabia.

**The Board:** SASO's Board of Directors.

**SASO:** Saudi Standards, Metrology and Quality Organization.

**Regulatory Authorities:** government body/ bodies with regulatory tasks according to their specializations, that are responsible for the implementation and enforcement of technical regulations, whether in customs, markets, or factories.

**Market Surveillance Authorities:** governmental body/ bodies responsible for carrying out market surveillance operations.

**Technical Regulation:** A document approved by the Board that provides the specifications of products, associated processes and production methods, including applicable administrative provisions; with which compliance is mandatory. It may include or pay attention to terms, definitions, packaging, and requirements of markings or labelling of products, services, processes or production methods.

**The Product:** Pipes and Fittings.

**Standard:** A document approved by the Board that provides, for regular and recurring use, non-mandatory rules, instructions, and specifications of products or processes and production methods. It may include or pay attention to terms, definitions, packaging, and requirements of markings or labelling of products, services, processes or production methods.

**Essential Requirements:** The special requirements of the products; that may affect the safety, health, and the environment; that must be adhered to.

**Hazard(s):** A potential source of harm.

**Risk (s):** A potential risk causing damage; associated with the severity of damage.

**Market Surveillance:** Activities and measures carried out by the market surveillance authorities to verify that products meet the requirements stipulated in the relevant technical regulations, and to ensure that they do not pose a risk to health, safety, the environment, or any other aspect related to the protection of the public.

**Supplier:**

- A product manufacturer, using its first name, legal name, or brand name in case that he is resident in the Kingdom, or the person identified as the manufacturer of the product, through linking the product to their name, or to a relevant commercial description, or any person who provides a product replacement.
- An agent, if the manufacturer is outside KSA or an importer in the absence of an agent of the manufacturer in KSA
- Any person in the supply chain, whose activities may affect the product characteristics

**Conformity Assessment Procedures:** A document approved by the Board, which describes the procedures used directly, or indirectly for the conformity assessment.

**Notified (Approved) Body:** Conformity Assessment Bodies "Third Party" approved by SASO in accordance with the Regulation of Conformity Assessment Bodies Acceptance.

**Certificate of Conformity:** A certificate issued by SASO or a notified body, which ensures the conformity of a product, or any batch thereof, with the requirements of relevant standards.

**Supplier Declaration of Conformity:** A declaration by the supplier by which it declares that a product conforms with the requirements herein and applicable legislations, without the mandatory intervention of a third party neither in the design stage, nor in the production stage of the manufacturing process. A declaration may depend on testing the product in accordance with the relevant legislation.

**Saudi Quality Mark:** A mark granted by SASO, which declares that the supplier has established an effective management system, which ensures that the products they supply are produced in accordance with the applicable regulations, granting procedures, and the relevant Saudi standards.

**Placing on Market:** Launching a product for the first time in the Saudi market for which the manufacturer/supplier is responsible.

**Making Available on the Market:** Any supply of the product for distribution, consumption or use in KSA, in the course of a commercial activity, in return for payment or free of charge.

**Withdrawal:** Any procedure that aims to prevent placing a product in the market or in a supply chain.

**Recall:** Any procedure that aims to recall products made available for the end-user.

**Basic Characteristics:** Basic characteristics of pipe products, joints and fittings related to the Essential Requirements of pipe installation works.

**Tube:** A hollow circular longitudinal section with two open ends.

**Length:** The total length of the tube including the head.

**Standard length:** The nominal or recognized length of the pipe or its fittings.

**Nominal Measurement:** Nominal diameter (DN) is a numerical distinction to determine the size of pipes and their accessories relative to their outer diameters or for the thread size to the pipes. The nominal size is classified by two letters (DN) followed by the corresponding number.

Pipes that are characterized by their outer diameter, wall thickness, screw dimensions or any other characteristic should be given a nominal diameter (DN) for reference. This DN does not give the full definition of the pipes; however, it is used in the case of connecting pipes of different materials together. This nominal diameter (DN) is not measured and is not used in calculations.

**Marking:** The pipe should be marked by the Standard number, its nominal size, thickness of the wall or the group and the shape of the end, like: (number - nominal size - wall thickness - end shape).

**Pipe fittings and accessories:** Components of the piping system, other than pipes used in a pipeline (e.g. bends, end caps, valves).

**Pipe Failure:** Explosion and leakage of pipes during testing and use.

**Galvanization:** The process of placing a protective layer of zinc on steel or iron to prevent rust by submerging iron parts in a molten zinc bath, forming corrosion-resistant, thus preventing corrosive substances from reaching the sensitive part of the metal.

**Metal pipes:** Metal pipes of cast iron, flex iron, gray cast iron and galvanized pipes, stainless steel pipes, black steel pipes, etc.

**Plastic pipes:** Pipes that are made of polyethylene, polypropylene, polyvinyl chloride, etc.

1/2 The terms and expressions specified herein shall have the meanings specified in the applicable laws, regulations, and decrees of SASO.

## Article (2) Scope

This Regulation applies to pipes used in (hot, cold and sewage) water, electricity and gas connections that are used in buildings and establishments, including pipe fittings and accessories.

This is in accordance with the relevant definitions and terminology contained in Article (1) and the relevant standards provided in Annex (1).

Compliance with this Regulation does not obviate the requirements of the Saudi Building Code.

- Water pipes and fittings used in firefighting systems shall be excluded from the scope of this Regulation.

### **Article (3) Objectives**

This Regulation aims to determine the basic requirements of the pipes used in water, electricity and gas connections included in the scope of this Regulation, and to determine the conformity assessment procedures that suppliers must comply with, in order to ensure that these products comply with the basic requirements aimed at preserving the environment and the health and safety of consumers, as well as to facilitate market surveillance procedures.

### **Article (4) Obligations of Supplier**

The supplier must comply with the following requirements:

#### **4/1 General basic requirements of the product used in construction works.**

##### **4/1/1 Requirements for pipes used in water, electricity and gas connections**

Pipes used in water, electricity and gas connections covered by this Technical Regulations shall be in their entirety or in separate parts suitable for the purpose for which they are designed, taking into account, in particular, the health and safety of the persons concerned throughout the life cycle of the pipes, including regular maintenance works.

##### **4/1/2 Requirements for sustainable use of natural resources**

Pipes used in water, electricity and gas connections should be designed and manufactured to achieve sustainable use of natural resources and, particularly, to ensure:

- A) Reuse or recycle of materials and construction parts after demolition.
- B) Sustainability of constructions.
- C) The use of environment-friendly primary and secondary raw materials

##### **4/1/3 Fire Safety**

Pipes used in water, electricity and gas installations shall be designed and manufactured to ensure the following in case of fire:

- A) Limited fire and smoke inside the buildings.
- B) Limited fire spread in neighboring buildings.
- C) The possibility of evacuating the residents or saving them by other means.

##### **4/1/4 Hygiene, health and environment**

Pipes used in water, electricity and gas connections should be designed and manufactured so that they do not pose a threat to public health or the health and safety of workers, residents or neighbors throughout their life cycle and should not affect the environment and climate during installation, use and demolition, in particular:

- A) Toxic gas emissions.



- B) Emissions of hazardous substances, volatile organic compounds (VOC), greenhouse gases or harmful particles in the air, both inside and outside the building.
- C) Hazardous Radiation Emissions.
- D) The presence of moisture or humidity in parts of buildings or on their roofs.

#### **4/1/5 Safety in use**

Pipes used in water, electricity and gas installations shall be designed and constructed to ensure that the design and construction of the structures – in which the product is installed – does not represent an unacceptable risk of accidents during service or during operation, such as slippage, fall, collision, burn or death, as a result of an electric shock, or injury as a result of an explosion.

#### **4/1/6 Energy conservation and thermal insulation**

Pipes used in water, electricity and gas connections shall be designed and constructed in such a way as to ensure that the design and implementation of construction works, including heating, cooling and ventilation systems and equipment, achieve acceptable levels of energy conservation, taking into account the climatic conditions of the site, and the convenience of the inhabitants of the building. In addition, the product must ensure energy efficiency of constructions during use and during construction, demolition or dismantling works.

#### **4/2 Technical Requirements**

In order to meet the basic requirements of the construction work, the supplier must meet the basic characteristics of the pipe material as follows:

- A) Piping materials shall meet the technical requirements stated in the standards specified in Annex (1) of these Regulations.
- B) Provide an effective environmental management system at the plant (the plant certified as the Environmental Management System according to (ISO 14001) shall be considered as have met the requirements of this section.

#### **4/3 Metrological requirements**

International system units (SI Units), their multiples or parts shall be used during design, manufacture or circulation, and pipe diameters shall conform to the nominal series of pipe diameters in international units.

**Note:** The following is a table showing the sequence of international and non-international units. Conversion of the nominal diameter of the standard adopted from non-international units to international units using (soft conversion) is not accepted, but the approved sequence must be taken into account, as they are used in engineering designs for the water systems.



|   |          |          |          |          |              |            |            |              |            |              |            |               |          |
|---|----------|----------|----------|----------|--------------|------------|------------|--------------|------------|--------------|------------|---------------|----------|
| Sequential diameters in non-international units | 1/4<br>" | 3/8<br>" | 1/2<br>" | 3/4<br>" | 1"<br>"      | 1-1/4<br>" | 1-1/2<br>" | 2"<br>"      | 2-1/2<br>" | 3"<br>"      | 3-1/2<br>" | 4"<br>"       | Etc<br>. |
| Equivalent diameters in international units     | 8<br>mm  | 10<br>mm | 15<br>mm | 20<br>mm | 25<br>m<br>m | 32<br>mm   | 40<br>mm   | 50<br>m<br>m | 65<br>mm   | 80<br>m<br>m | 90<br>mm   | 100<br>m<br>m | Etc<br>. |

#### 4/4 Requirements of transport and packaging

- A) Ensure that pipes are securely and correctly assembled and arranged during storage and transport operations, in accordance with the packing requirements of the relevant standard.
- B) Pipelines shall be transported safely in specialized trucks that do not cause hazards while on the road; within the permissible limits in terms of length of transport vehicles; and the use of trucks dedicated to transporting long pipes is mandatory.

#### Article (5) Labelling

Labelling for the pipes intended for placement and making available in the market shall be as follows:

- 5/1 The labeling on the product packaging shall comply with the technical requirements stated in this regulation and the relevant standard specifications set forth in Annex (1) of these regulations.
- 5/2 The labelling should include warnings and instructions for use, in a clear writing that is difficult to remove.
- 5/3 All information used on the labelling shall be correct and proved.
- 5/4 The images and expressions used on the product packages shall not be contrary to public order, morals and Islamic values prevailing in the Kingdom.

#### Article (6) Conformity Assessment Procedures

- 6/1 The supplier in charge placing the product in the market shall obtain a certificate of conformity issued by an entity acceptable to SASO, in accordance with the conformity assessment form (Type 3) in accordance with the specification (ISO/IEC 17067) as indicated in Annex (3).
- 6/2 The Accredited Body shall carry out conformity assessment procedures according to the specified form to ensure that the requirements of these Regulations and the relevant Saudi Standards as set out in Annex (1) are met.

- 6/3 A technical file must be attached to the product with the following data contained therein:
- A) Supplier's (Manufacturer's / Importer's) Declaration of Conformity as per the form attached in Annex (5).
  - B) Risk assessment document.
- 6/4 The supplier shall collaborate with Regulatory Authorities and Market Surveillance Authorities, such as the submission of technical file documents, certificates of conformity and any other documented information proving that the product complies with the requirements of this regulation, whenever required.
- 6/5 Pipes with the Saudi Quality Mark or equivalent shall be deemed to comply with the requirements of this Regulation.

#### **Article (7): Responsibilities of Regulatory Authorities (Customs Ports - Factories)**

Regulatory Authorities, as a part of their competences, shall carry out the following:

- 7/1 Verify that pipe material fulfill the requirements of the specified conformity assessment procedures, and include the associated technical documents in the consignments.
- 7/2 Have the right to randomly take samples of pipes products and refer such samples to the competent laboratories to ascertain if such sample conform to the requirements set out.
- 7/3 Have the right to charge suppliers (manufacturers/importers) with the costs of tests and associated fees.
- 7/4 In case of product non-conformity, withdraw such products from warehouses, and take necessary legal measures.

#### **Article (8) Responsibilities of Market Surveillance Authorities**

Market Surveillance Authorities, as a part of their competences, shall:

- 8/1 Enforce the market surveillance procedures on the products in markets and the products stored in the traders' and manufacturers' warehouses, in order to check product's safety and the extent of fulfillment of the requirements stipulated in this Technical Regulation and relevant standards.
- 8/2 Sample the product, from the market or warehouses of suppliers (manufacturers and importers), in order to conduct necessary tests and verify the conformity of such products with the requirements set out herein.
- 8/3 In case of non-conformity of – supplied or stored – products with the requirements of this Technical Regulation, take all administrative measures including withdrawal and recall of such products. Procedures and penalties – stipulated in Article (9) – shall be applied after taking necessary actions.

## Article (9): Violations and Penalties

- 9/1 It is prohibited to manufacture, import, place, offer, or advertise products non-conforming with the requirements of the articles stipulated herein.
- 9/2 Failure to meet the requirements of this Regulation shall be a sufficient reason for Market Surveillance Authorities and Regulatory Authorities to consider the product as non-conforming, , including,:
- A) Non-fixing or improper fixing of conformity labels, Saudi Quality Mark, or its equivalent.
  - B) Failure to issue or improper issuance of the Certificate of Conformity or the Supplier Declaration of Conformity.
  - C) Unavailability or incompleteness of technical documents.
  - D) Unavailability or incompleteness of product data/labels, or usage instructions.
- 9/3 In case of a violation of the provisions hereof, Market Surveillance Authorities shall take all necessary actions to eliminate such violations, and their effects from the market as the case may be. To this end, Market Surveillance Authorities may:
- A) Order the violating body – that is responsible for placing and offering of the product – to withdraw the product from the warehouses or markets in order to remedy such violations, if possible. The product may be exported or destroyed (according to the nature of the product) within the period specified by Market Surveillance Authorities.
  - B) Withdraw, restrain or destroy the products, or take any other necessary action to recall such products from the markets. In addition, as the case may be, Market surveillance Authorities may announce the withdrawal of the product from the markets, and the violating body shall bear all associated expenses.
- 9/4 In case of non-conformity of the products, SASO shall take the necessary actions concerning products non-conforming with the requirements herein, including the cancellation of the relevant Certificate of conformity, while taking the necessary measures with the Approved Body, which issued the certificate.
- 9/5 Without prejudice to any other law, a party that violates any of the provisions hereof shall be subject to the penalties stipulated in applicable Anti-Commercial Fraud Law or any other superseding law.

## Article (10): General Provisions

- 10/1 Supplier shall bear full legal responsibility for the implementation of the requirements of this Technical Regulation, and shall be subject to the penalties stipulated in the Anti-Commercial Fraud laws and/or any other related laws, in case any violation of the articles herein is proven.
- 10/2 This Technical Regulation shall not impede the supplier to comply with all other systems/regulations applicable in the Kingdom of Saudi Arabia; pertaining to trading, transporting, or storing the product, in addition to the rules/regulations related to the environment, security, and safety.
- 10/3 All suppliers of pipes used in water, electricity and gas to the provisions of this Technical Regulation shall provide the inspectors of the Regulatory and Market Surveillance Authorities with all facilitation and necessary information, when required, to carry out their assigned tasks.
- 10/4 Where new cases that cannot be treated under the provisions of this Technical Regulation originate, or where a dispute arises as a result of the application of those provisions, such matter shall be referred to the competent committee in SASO, in order to issue a proper resolution regarding the case or dispute, while taking the public interest into consideration.
- 10/5 Supplier may submit a new request after elimination of the reasons of rejection for the conformity assessment procedures request, after the necessary corrections have been made. The supplier shall be responsible for any additional expenses determined by SASO
- 10/6 SASO shall examine the complaints received regarding the products having a Certificate of Conformity or a Quality Mark, if any, and verify the validity of such complaints, and take the necessary legal actions in case of any violations.
- 10/7 SASO have the right to annul the Certificate of Conformity or the Quality Mark license, if any, if the supplier violates the provisions herein, and shall take the legal actions to ensure the preservation of the rights of SASO.
- 10/8 If any modifications were made to the product during the validity period of the Certificate of Conformity or the Quality Mark license, if any, (except for morphological modifications), the certificate or license, for this product shall be annulled, and a new request shall be submitted.
- 10/9 SASO shall, exclusively, have the right to construe the articles herein. All beneficiaries of the application of this Technical Regulation shall adhere to the interpretations issued by SASO.

### **Article (11): Transitional Provisions**

- 11/1 Supplier shall adhere to the provisions of this Technical Regulation within a period of no more than six months of the date of publication in the Official Gazette.

- 11/2 Non-conforming products, may be traded for a maximum of one year as of the date of the publication of this Technical Regulation.
- 11/3 This Technical Regulation, once enforced, shall supersede all the preceding regulations related to the scope of this regulation before being placed and displayed in the market.

**Article (12): Publication**

This Technical Regulation shall be published in the Official Gazette.



## Annex (1)

## A) List of Pipe Products and their Accessories and Relevant Standards

| No. | Product                        | Title of the Standard   | Standard No.     |
|-----|--------------------------------|---|------------------|
| 1   | Plastic water and sewage pipes | Plastics piping systems - Polyethylene (PE) pipes and fittings for water supply – Part2: Pipes  | SASO-ISO-4427-2  |
| 2   |                                | Plastics piping systems - Multilayer pipes and joints based on thermoplastics for water supply  | SASO-ISO-7685    |
| 3   |                                | Plastics piping system - Thermoplastic pipes and glass - reinforced joints - Methods of regression analysis and their usage                   | SASO-ISO-15875-2 |
| 4   |                                | Plastics piping systems for hot and cold-water installations - Crosslinked polyethylene - Part 2: Pipes                                       | SASO-ISO-14531-1 |
| 5   |                                | Plastics pipes and fittings - Cross-linked polyethylene pipe systems for gas fuel transportation - Metric series - Properties - Part 1: Pipes | SASO-ISO-15876-2 |
| 6   |                                | Plastics piping systems for hot and cold-water installations - Polybutylene - Part 2: Pipes   | SASO-ISO-11298-3 |
| 7   |                                | Plastics piping systems for the renovation of groundwater networks - Part 3: Lining for close compatibility pipes                             | SASO-ISO-4437-2  |
| 8   |                                | Plastics piping systems for gas fuels - Polyethylene (PE) - Part 2: Pipes   | SASO-ISO-15874-2 |
| 9   |                                | Plastics piping systems for hot and cold-water installations - Polypropylene - Part 2   | SASO-ISO-4427-3  |
| 10  |                                | Plastic piping systems - Polyethylene (PE) - Pipes and fittings for water supply - Part 3: Fittings   | SASO-ISO-17454   |
| 11  |                                | Plastics piping systems - Polyethylene (PE) Pipes and fittings for water supply - Part 1: General   | SASO-ISO-7511    |
| 12  |                                | Plastics piping systems – Glass-backed thermoplastics pipes and fittings  | SASO-ISO-7509    |
| 13  |                                | Test method to prove severe wall leakage under short - term internal pressure   | SASO-ISO-8513    |

| No. | Product | Title of the Standard   | Standard No.      |
|-----|---------|---|-------------------|
| 14  |         | Plastics piping systems for non - compressed underground drainage and drainage – Non-plasticized poly (vinyl chloride), polypropylene and polyethylene wall pipe systems - Part 2: Pipes and fittings with a smooth exterior surface. | SASO-ISO-21138-2  |
| 15  |         | Plastics piping systems for non - compressed underground drainage and drainage – Non-plasticized poly (vinyl chloride), polypropylene and polyethylene wall pipe systems - Part 3: Pipes and fittings with a rough exterior surface.  | SASO-ISO-21138-3  |
| 16  |         | Specification for pipes for plastics, fittings added for the polyethylene and plastic pipes   | SASO-ASTM-D2609   |
| 17  |         | Specification for Polyethylene (PE) plastic pipe based on the sealed outer diameter   | SASO-ASTM-D3035   |
| 18  |         | Rubber - Recommendations for the manufacture of tubular connection rings - Description and classification of defects  | SASO-ISO-9691     |
| 19  |         | Plastics piping systems for hot and cold water installations - Chlorinated PVC - Part 2: Pipes  | SASO-ISO-15877-2  |
| 20  |         | Plastics piping systems for non-compressed drainage and sewage - concrete polyester resin - (PRC) Part 1: Pipes and fittings with flexible joints   | SASO-ISO-18672-1  |
| 21  |         | Plastic pipes for hot and cold-water installations for buildings - Polyethylene of high temperature resistance – (PE-RT) Part 2: Pipes  | SASO-ISO-22391-2  |
| 22  |         | Plastics piping systems - Multilayer metal pipes - Test method for welding line strength in the metal layer and interconnection between layers using a cone.  | SASO-ISO-TR-18124 |
| 23  |         | Plastics piping systems for underground non - compressive drainage and sewage systems - Part 2: Lining for close compatibility.   | SASO-ISO-11296-3  |
| 24  |         | Plastics piping systems for underground non-pressure drainage regeneration and sewage   | SASO-ISO-11296-4  |



| No. | Product                      | Title of the Standard   | Standard No.      |
|-----|------------------------------|---|-------------------|
|     |                              | systems - Part 4: Lining of pipes with vulcanization in place.  |                   |
| 25  |                              | Plastics piping systems for the renovation of underground sewage systems - Part 7 - Lining with spirally filled pipes             | SASO-ISO-11296-7  |
| 26  |                              | Plastics pipes and fittings - Reinforced thermoplastic piping systems for the supply of gaseous fuels of pressures up to – 40 Mpa | SASO-ISO-TS-18226 |
| 27  |                              | Standard Specification for Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe (SDR–PR)  | SASO ASTM F442M   |
| 28  | Metal water and sewage pipes | Ductile cast iron pipes - Basic outer zinc coating - Part 1: Metallic zinc with a finishing layer                                 | SASO-ISO-8179-1   |
| 29  |                              | Ductile cast iron pipes - Basic outer zinc coating - Part 2: Rich zinc with paint finish  | SASO-ISO-8179-2   |
| 30  |                              | Standard Specification for Austenitic / Ferritic Stainless-Steel Welded Electrofusion Pipes with Metal Filling                    | SASO-ASTM-A928    |
| 31  |                              | Steel pipes and fittings for submerged or buried pipelines - external and internal coating of bitumen or coal tar materials       | SASO-ISO-5256     |
| 32  |                              | Specification for Cast Iron Pipes and Fittings for Drainage   | SASO-ASTM-A74     |
| 33  |                              | Ductile iron pipes, fittings, fittings and accessories for water applications   | GSO-ISO-2531      |
| 34  |                              | Cast iron pipes and fittings for sanitary purposes for water and ventilation waste.   | SASO-827          |
| 35  |                              | Ductile cast iron pipes for pressure pipelines - Centrifugal cement mortar lining - Test methods                                  | GSO-ISO-4179      |
| 36  |                              | Specification for Welded and Seamless Austenitic / Ferritic Stainless-Steel Tubes   | SASO-ASTM-A790M   |



| <b>No.</b> | <b>Product</b> | <b>Title of the Standard</b>   | <b>Standard No.</b> |
|------------|----------------|--|---------------------|
| 37         |                | Standard Specification for Nipples for Welded and Seamless Pipes Made of Carbon Steel and Stainless Steel Estonaitec   | SASO-ASTM-A733      |
| 38         |                | Standard Specification for Chromium-Austenitic Nickel-Welded Stainless-Steel Tubes for Electrofusion Applications for High-Temperature Applications and General Applications | SASO-ASTM-A358      |
| 39         |                | Standard Specification for Chromium-Austenitic Nickel-Welded Stainless-Steel Tubes for Electrofusion Applications for High-Temperature Applications and General Applications | SASO-ASTM-A53       |
| 40         |                | Standard Specification for Cast Iron Pipes Used in Drainage, Flush and Ventilation Drainage Networks   | SASO-ASTM-A888      |
| 41         |                | Cast iron drainage pipes and fittings - faucet thread  | SASO-ISO-6594       |
| 42         |                | Cast iron drainage pipes and fittings - Spigot series Standard specifications for gray cast iron for valves, flanges and pipe fittings                                       | SASO-ASTM-A126      |
| 43         |                | Ductile cast iron pipelines and joints - Insulating layers of cement lining mortar   | SASO-ISO-16132      |
| 44         |                | Specification for Welded, Cold - Welded, Seamless Pipes Made of Stainless Steel.   | SASO-ASTM-A312M     |
| 45         |                | Pipework - Stainless steel fittings threaded in accordance with ISO 7-1  | SASO-ISO-4144       |
| 46         |                | Industrial valves. Copper alloy gate valves  | SASO EN 12288       |
| 47         |                | Building valves. Copper alloy stopvalves for potable water supply in buildings. Tests and requirements   | SASO EN 1213        |
| 48         |                | Building valves. Manually operated copper alloy and stainless steel ball valves for potable water supply in buildings. Tests and requirements                                | SASO EN 13828       |

| No. | Product                | Title of the Standard   | Standard No.         |
|-----|------------------------|---|----------------------|
| 49  | Gas Connections Pipes  | Standard Specification for Welded and Seamless Hot - Dipped Zinc - Coated Black Steel Pipe.   | SASO-ASTM-A53/A53M   |
| 50  |                        | Standard Specification for Copper Steel Pipe  | SASO-ASTM-A254/A254M |
| 51  |                        | Standard Specification for Seamless Carbon Steel Tubes Used at High Temperatures  | SASO-ASTM-A106       |
| 52  |                        | Standard Specification for Aluminum - Alloy Seamless Tubes and Extruded Seamless Tubes.   | SASO-ASTM-B241/B241M |
| 53  |                        | Standard Specification for Drawn and Seamless Tubes Made of Aluminum and Aluminum Alloys.   | SASO-ASTM-B210       |
| 54  |                        | Standard Specification for Seamless Copper Water Pipes (Metric System) (for Types L and K)  | SASO-GSO-ASTM-B88M   |
| 55  |                        | Piping systems for cable organization - Pipe diameters for electrical installations, pipe wires and fittings  | SASO-IEC-60423       |
| 56  | Electric Cabling Pipes | Cable duct and duct systems for electrical installations - Part 1: General requirements   | SASO-IEC-60981       |
| 57  |                        | Cable duct and duct systems for electrical installations - Part 2: Particular requirements - Section 1: Cable systems and cable ducts for wall or ceiling installation                            | SASO-IEC-61084-1     |
| 58  |                        | Cable ducts and duct systems for electrical installations - Part 2: Particular requirements - Section 2: Cable duct systems and cable duct systems for underground and ground-level installations | SASO-IEC-61084-2-1   |
| 59  |                        | Cast iron drainage pipes and fittings - Spigot series Standard specifications for gray cast iron for valves, flanges and pipe fittings  | SASO-IEC-61084-2-2   |
| 60  |                        | Cable duct systems and ducts for electrical installations - Part 2-3: Particular requirements - Slotted cable duct systems designed for electrical installations in cabins                        | SASO-IEC-61084-2-3   |

| <b>No.</b> | <b>Product</b> | <b>Title of the Standard</b>   | <b>Standard No.</b>  |
|------------|----------------|--|----------------------|
| 61         |                | Cable ducts and sewer systems for electrical installations - Part 2: Particular requirements - Section 5: Service columns                              | SASO-IEC-61084-2-4   |
| 62         |                | Channel systems for cable organization - Part 1: General requirements  | SASO-GSO-IEC-61386-1 |
| 63         |                | Channel systems for cable organization - Part 21: Particular requirements for solid channel systems.   | SASO-IEC-61386-21    |
| 64         |                | Channel systems for cable organization - Part 22: Particular requirements - Flexible channel systems   | SASO-IEC-61386-22    |
| 65         |                | Channel systems for cable organization - Part 24: Particular requirements - Flexible pipe systems  | SASO-IEC-61386-23    |
| 66         |                | Conduit systems for cable organization - Part 24: Particular requirements for underground piping systems   | SASO-IEC-61386-24    |
| 67         |                | Piping systems for cable management - Part 25: Particular requirements - Piping fittings   | SASO-IEC-61386-25    |
| 68         |                | Mobile power systems - Part 1: General requirements  | SASO-IEC-61534-1     |
| 69         |                | Power path systems - Part 21: Particular requirements for power path systems for wall and ceiling installation   | SASO-IEC-61534-21    |
| 70         |                | Power path systems - Part 22: Particular requirements for power path systems for underground installation  | SASO-IEC-61534-22    |
| 71         |                | Cable management - Cable rack systems and cable ladders  | SASO-IEC-61537       |
| 72         |                | Cable cleats for electrical installations  | SASO-IEC-61914       |
| 73         |                | Cable management systems - Specification for pipe joints and accessories for cable installations of rigid electrical pipes for very heavy applications | SASO-IEC-61950       |

| No. | Product | Title of the Standard  | Standard No.   |
|-----|---------|--|----------------|
| 74  |         | Cable management systems - Cable ties for electrical installations | SASO-IEC-62275 |
| 75  |         | Cable connections for electrical installations                     | IEC-62444      |
| 76  |         | Articulated systems and flexible cable routing systems             | GSO-IEC-62549  |

**Note:** The list of standards mentioned in this Annex is subject to review, and suppliers are responsible for ensuring that they use the latest standards through SASO's website.



## Annex (1)

## B) List of Products and Customs Coding

| SN | Products Category   | Customs Item |
|----|---|--------------|
| 1  | Solid tubes of ethylene polymers  | 3917         |
| 2  | Solid tubing of propylene polymers  |              |
| 3  | Solid PVC pipes   |              |
| 4  | Solid pipes from other plastic material   |              |
| 5  | Flexible pipes that can withstand at least a pressure of 72,5 MPa   |              |
| 6  | Pipes and special profiles, hollow and seamless   | 7304         |
| 8  | Welded pipes with a circular cross-section; of iron or steel other than alloys  | 7306         |
| 9  | Welded pipes with a circular cross-section of stainless steel   |              |
| 10 | Welded pipes with round cross section of other steel alloys   |              |
| 11 | Welded pipes with non-circular cross-section.   |              |
| 12 | Tubes with a square or rectangular cross-section  |              |
| 13 | Pipes with a cross section other than circular  |              |
| 14 | Pipe fittings of non-malleable cast iron: elbow, sleeves, flanges   | 7307         |
| 15 | Various other molded or non-cast pipe fittings, welding or non-welded fittings, elbows, curved parts and threaded sleeves |              |
| 16 | Pipes made of copper alloys   | 7411         |
| 17 | Pipe fittings, pure copper, copper alloys, elbow sleeves  | 7412         |
| 18 | Pipes made of nickel  | 7507         |
| 19 | Nickel pipe fittings elbow sleeves and joints   |              |
| 20 | Tubes made of aluminum  | 7608         |
| 21 | Aluminum pipe fittings (e.g. joints, elbows and sleeves)  | 7609         |
| 22 | Electrical lines' supplies (e.g. wire ducts, clips and stands)  | 7616         |
| 23 | Flexible tubes of basic metal, albeit with fittings   | 8307         |
| 24 | Tubes for electrical extension and connections of base metal lined with insulating materials                              | 8547         |

**Note:** The products and customs codes indicated in the Saber electronic platform are the updated and approved version.

## Annex (2)

### Conformity Assessment Form (Type 3) as per ISO/IEC 17067

#### (Type Approval Based on Quality Assurance of Production Process)

#### 1 Type Approval Based on Quality Assurance of Production Process

A model of conformity assessment procedures, by which the supplier fulfills the obligations set out in the items below, while ensuring and acknowledging - on its sole responsibility - that the concerned products are in conformity with the type specified in the Type Approval Certificate and comply with the requirements of the relevant technical regulations.

#### 2 Manufacturing

The supplier shall operate with a certified Product Safety Management System, to ensure the safety of the product, including production lines, final inspection and testing of the concerned products as per Clause (3), and shall be subject to periodic surveillance as per Clause (4).

#### 3 Product Safety Management System

3/1 The supplier shall submit a request to a Notified Body “Third party” of its choice, in order to evaluate the safety management system of concerned products.

The request shall include:

- A) Name and address of the supplier, and the name and address of the official representative, in case the representative submits the request.
- B) The manufacturer shall be officially licensed by the relevant authorities in the country of origin.
- C) A written declaration not to submit the same request to any other Notified Body “Third Party”.
- D) All relevant information regarding the concerned product category.
- E) Documentation of the Product Safety Management System.
- F) Technical documents of the certified type, and a copy of the Type Approval Certificate.



- 3/2 The Product Safety Management System shall guarantee that the manufactured products are in conformity with the type specified in the Type Approval Certificate, and with the requirements of the relevant technical regulations.
- 3/3 All the system elements and its requirements - adopted by the supplier - shall be documented in a systematic and orderly manner in a form of written policies, procedures and instructions. The documents of the Product Safety Management System shall provide a consistent understanding of the safety programs, plans, manuals and records. Such documents shall contain, in particular, an adequate description of the following:
- A) Quality objectives, organizational structure, responsibilities and competences of the management regarding the safety of the product.
  - B) Manufacturing techniques, product safety and quality assurance procedures, and applied processes and procedures.
  - C) Executed inspections and tests; before, during, and after manufacturing, and the frequency with which they will be carried out.
  - D) Records: such as inspection, testing, calibration reports, and the qualification documents of relevant personnel, etc.
  - E) Means of control for achieving the required product safety and the effective operation of the Product Safety Management System.
- 3/4 The Notified Body, approving the Product Safety Management System, shall assess such system to determine whether it satisfies the requirements referred to in Clause (3/3), during the period of the approval of the system, which shall be three years.
- 3/5 The product shall be presumed to comply with the requirements of the technical regulations, in relation to the items of the Product Safety Management System, whenever it conforms to the standards.
- 3/6 In addition to experience in the relevant product safety, the auditing team shall have one technical expert - at least – who is experienced in the assessment of the field and techniques of manufacturing of the product, and is fully aware of the technical requirements stipulated in the relevant technical regulations.
- 3/7 The audit shall include an assessment visit to the factory. The auditing team shall review the technical documents referred to in Clause (3/3), in order to verify the manufacturer's ability to identify the requirements of the technical regulations and carry out the necessary examinations and tests to ensure compliance of the product with these requirements.

- 3/8 The manufacturer shall be notified of the decision after the end of the assessment, provided that such notice include audit findings, assessment decision, along with the justifications on which the decision was based.
- 3/9 The manufacturer shall be committed to satisfy the obligations of the Product Safety Management System, as approved, and to maintain the system so that it remains adequate and efficient.
- 3/10 The manufacturer shall notify the conformity assessment body, which approved the Product Safety Management System, of any proposed modifications to the system.
- 3/11 The Notified Body shall evaluate any proposed modifications and decide whether the modified Product Safety Management System will continue to satisfy the requirements referred to in Clause (3/3) or a reassessment is necessary. The Notified Body shall notify the manufacturer of its decision; the notification shall include testing results along with the justifications of the assessment decision.

#### **4 Periodic Surveillance Under the Responsibility of the Notified Body**

- 4/1 The purpose of periodic surveillance is to verify the extent of which the supplier meets the obligations of the certified Product Safety Management System.
- 4/2 For assessment purposes, the supplier shall allow the Notified Body, during the validation period, to enter the manufacturing, inspection, testing and storage sites. The supplier shall provide the Notified Body with all necessary information, particularly, the Product Safety Management System documents and safety records, such as testing and calibration reports, and the qualification documents of relevant personnel, etc.
- 4/3 The Notified Body shall carry out periodic audit visits to verify that the manufacturer applies and maintains the Product Safety Management System, and shall provide the supplier with an audit report.
- 4/4 The Notified Body have the right to perform unexpected visits to the factory. During such visits, the Notified Body may, as necessary, carry out product tests, or have them carried out by a third party, in order to verify that the Product Safety Management System is properly functioning. The Notified Body shall provide the supplier with an assessment report, and testing reports, in case of testing.

#### **5 Certificate of Conformity and Declaration of Conformity**

- 5/1 The Notified Body shall issue a Certificate of Conformity for the product in case the supplier has an effective and certified Product Safety Management System, upon the request of the supplier, within the validity period.

- 5/2 The Notified Body shall identify the product details in each request, clarify such details in the issued Certificate of Conformity, and record them in the electronic portal for conformity (in SASO).
- 5/3 The supplier shall provide a written Declaration of Conformity for each approved product type (Type Approval), and shall put it at the Regulatory Authorities and Market Surveillance Authorities disposal for a period of ten (10) years, at least, after the placement of the product in the market. The Declaration of Conformity of the supplier shall identify the approved product type. Furthermore, a copy of the Certificate of Conformity and the Declaration of Conformity shall be provided to the Regulatory Authorities and Market Surveillance Authorities upon request.
- 5/4 The supplier shall put the following documents at the Regulatory Authorities and Market Surveillance Authorities disposal, for a period of ten (10) years, at least, after placement of the product in the market:
- Documentation referred to in Clause (3/3).
  - The amendments referred to in Clause (9/3), as approved.
  - Decisions and reports of the Notified Body, referred to in Clause (7/3).
- 5/5 Each Notified Body shall inform the Regulatory Authorities and Market Surveillance Authorities of issued or withdrawn Product Safety Management System approvals, and shall periodically or upon request, provide lists of Product Safety Management System approvals that have been rejected, suspended, or restricted by any means; on a regular basis or upon request. Each Notified Body shall inform, upon request, the other Notified Bodies of Product Safety Management System approvals it has rejected, suspended, withdrawn, or restricted; and notify such bodies of Product Safety Management System approvals issued by it.

**Annex (3)**

**Supplier Declaration of Conformity**

*This form shall be filled in on company's official papers*

**1) Supplier's Details:**

Name:-----

Address:-----

-----

-----

Contact Person:

Email: -----

Tel.: -----

Fax: -----

**2) Product Details:**

- Trademark: -----

- Model: -----

- Description: -----

- Type (as per Standards): -----

- Reference Standards/ Technical Specifications: -----

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We declare that the above mentioned product is in conformity to the Saudi Technical Regulation ( ) and the Saudi Standards attached thereto.

Person in Charge: -----

Company Name: -----

Signature: ----- Date: --/--/-----

