

# شهادة اعتماد

رقم TL 185



يقر نظام الاعتماد العراقي بأن:  
مختبرات شركة مناهل الخليج للتجارة والمقاولات العامة والنقل العام  
والخدمات النفطية والفحص والتقييس والسيطرة النوعية والتعبئة والتغليف  
العراق - واسط - منفذ زرباطية الحدودي  
تم اعتمادها وفقا لمتطلبات المواصفة ISO/ IEC 17025:2017  
(المتطلبات العامة لاهلية مختبرات الفحص والمعايرة)  
في مجال:

- |                                                    |                             |                                           |                              |
|----------------------------------------------------|-----------------------------|-------------------------------------------|------------------------------|
| -اختبارات المواد المعدنية                          | -اختبارات المواد الكيميائية | -اختبارات المواد الانشائية                | -اختبارات المواد الغذائية    |
| -اختبارات المواد الخشبية                           | -اختبارات المواد الزراعية   | -اختبارات المواد البلاستيكية              | -اختبارات مواد الغزل والنسيج |
| -اختبارات الاجهزة والمعدات الكهربائية والالكترونية |                             | -اختبارات المواد البترولية والبتروكيماوية |                              |

شرط التوافق مع متطلبات المواصفة اعلاه ومتطلبات IQAS الخاصة بالاعتماد  
مجال الاعتماد المرفق بالشهادة يعتبر جزءا لا يتجزأ منها

يمكن الحصول على الاصدار الاحدث من مجال الاعتماد من خلال الموقع الالكتروني

<https://iqas.mop.gov.iq>

يكون الاعتماد نافذا من ٢٠٢٤/٩/٢٩ الى ٢٠٢٦/٩/٢٨  
تاريخ منح الاعتماد لأول مرة  
٢٠٢٤/٩/٢٩

نقلت

أ.د. محمد علي تميم  
نائب رئيس مجلس الوزراء  
وزير التخطيط

المهندس

عبد الواحد محمد ابراهيم  
ع/ مدير عام الهيئة العراقية للاعتماد



## ACCREDITATION CERTIFICATE

No. TL 185



Iraqi Accreditation System Certify that:  
**Laboratories of Manahil Al Khaleej Company for General  
Trading, Contracting, Public Transport, Oil Services,  
Inspection, Quality Standardization and Packaging**

**Iraq – Wasit - Zurbatiyah Border Port**

**Is accredited according to the requirements of the standard ISO/IEC 17025:2017  
(General Requirements for the Competence of Testing and Calibration Laboratories)**

**In the field of:**

- |                                              |                                    |                                          |                                     |
|----------------------------------------------|------------------------------------|------------------------------------------|-------------------------------------|
| - Food Materials<br>Testing                  | -Construction<br>Materials Testing | -Chemical<br>Materials Testing           | -Metallurgical<br>Materials Testing |
| -Textile Materials<br>Testing                | -Polymer Materials<br>Testing      | -Agricultural<br>Materials Testing       | -Wood Materials<br>Testing          |
| -Petroleum & Petrochemical Materials Testing |                                    | -Electrical & Electronic Devices Testing |                                     |

**This accreditation is subject to with the above standard & IQAS requirements  
The scope of accreditation is attached to the certificate & considered as part of it**

**The most recent issue of the accreditation scope is available on IQAS website**

<https://iqas.mop.gov.iq>

**Accreditation is valid From 29/9/2024 To 28/9/2026**

**Initial accreditation date**

**29/9/2024**

  
**Eng. Abdul Wahid Mohammed Ibrahim  
Instead of General Manager of IQAS**

  
**Dr. Mohammed Ali Tamim  
Deputy Prime Minister  
Minister of Planning**



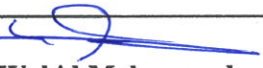
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| <b>Organization address:</b><br>Iraq – Wasit - Zurbatiyah<br>Border Port                                                                                                          | <b>Organization name :</b><br>Laboratories of Manahil Al Khaleej<br>Company for General Trading,<br>Contracting, Public Transport, Oil<br>Services, Inspection, Quality<br>Standardization and Packaging | <b>Accreditation no.:</b><br>TL 185                                      |
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| Testing fields | Type of test                                                                                         | Test object or product                                                                    | Reference to standardize method               |
|----------------|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-----------------------------------------------|
| Biological     | Detection of Salmonella spp.                                                                         | Poultry and red meat & their products                                                     | ISO 6579.1/2017 (AMD2020)<br>AOAC LNO.07 1204 |
| Biological     | Detection & Enumeration of E. coli.                                                                  | Food fruit                                                                                | ISO 16649 (AMD.2019)                          |
| Biological     | Detection and enumeration of Pseudomonas aeruginosa                                                  | Drinking Water/ Water quality                                                             | ISO 16266                                     |
| Biological     | Determination of Mycotoxins (Ochratoxin, Aflatoxin and T2 toxin)                                     | Food product                                                                              | AOAC 990.34                                   |
| Chemical       | pH determination in fruit and vegetables                                                             | Fruit and vegetables                                                                      | ISO 1842                                      |
| Chemical       | Detection and identification of pesticide                                                            | Food and fruits                                                                           | AOAC 2007.01                                  |
| Chemical       | Determination of moisture                                                                            | Food and grain                                                                            | AOAC 973.41                                   |
| Chemical       | Determination of brix                                                                                | Food and beverages                                                                        | AOAC 932.12                                   |
| Chemical       | -Determination of aflatoxin M1 by HPLC method and Immunoaffinity column clean up                     | Milk and milk products                                                                    | ISO 14501                                     |
| Chemical       | Determination of aflatoxin B1, and the total content of aflatoxins                                   | Foodstuffs, cereals, nuts and derived products                                            | ISO 16050                                     |
| Chemical       | Determination of deoxynivalenol in — HPLC method with immunoaffinity column cleanup and UV detection | Foodstuffs cereals, cereal products and cereal based foods for infants and young children | BS EN 15891                                   |
| Chemical       | Determination of ochratoxin A in barely and roasted coffee                                           | Coffee                                                                                    | EN 14132                                      |

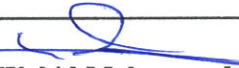
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|          | HPLC method with immunoaffinity column                                                                        |                       |                                                                |
| Chemical | Multimethod for the determination of pesticide residues using GC and LC-based analysis following acetonitrile | Foods of plant origin | EN 15662                                                       |
| Chemical | NaCl (Table salt) content                                                                                     | Food products         | AOAC Official Method 2015.01                                   |
| Chemical | Fat content                                                                                                   | Food products         | AOAC Official Method 937.09 Salt (Chlorine as Sodium Chloride) |
| Chemical | Acidity (as lactic acid)                                                                                      | Food products         | AOAC Of Method 989.05                                          |
| Chemical | Moisture                                                                                                      | Food products         | AOAC Official Method 942.15 Acidity (Titratable)               |
| Chemical | Dry matter                                                                                                    | Food products         | AOAC 930.15                                                    |
| Chemical | Starch                                                                                                        | Food products         | AOAC Official Method 996.11 Starch                             |
| Chemical | Gluten                                                                                                        | Food products         | AOAC 2018.15-2018 Gluten from Wheat                            |
| Chemical | Protein content                                                                                               | Food products         | AOAC Official Method 2001.11 Protein                           |
| Chemical | pH                                                                                                            | Water                 | ISO 10523                                                      |
| Chemical | EC                                                                                                            | Water                 | ISO 7888                                                       |
| Chemical | TDS                                                                                                           | Water                 | ISO 23446                                                      |



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| Chemical                 | Detection of heavy metals                                                                                                   | Water                                                          | ISO 11885:2007 |
| Chemical                 | Iodine content                                                                                                              | Table salt                                                     | IQS 111        |
| Chemical                 | Acesulfame                                                                                                                  | Soft drink                                                     | IQS 1266       |
| Chemical                 | benzoic acid                                                                                                                | Soft drink                                                     | ISO 9231       |
| Chemical                 | Sorbic acid                                                                                                                 | Soft drink                                                     | ISO 9231       |
| Chemical                 | Aspartame                                                                                                                   | Soft drink                                                     | ISO 9231       |
| Chemical                 | Caffeine                                                                                                                    | Soft drink                                                     | ISO 9231       |
| Chemical                 | saccharine                                                                                                                  | Soft drink                                                     | ISO 9231       |
| Chemical                 | pH                                                                                                                          | Powder detergent                                               | IQS 1276       |
| Mechanical<br>& Physical | Tensile test and bending                                                                                                    | Glass fiber concrete rein<br>or cement bars                    | GSO 2488/2015  |
| Mechanical<br>& Physical | Compressive strength test                                                                                                   | Facing brick solid<br>masonry units made<br>from clay or shale | ASTM C216      |
| Mechanical<br>& Physical | Dimensions and tolerances<br>Flexion resistance                                                                             | Gypsum board                                                   | IQS 1676       |
| Mechanical<br>& Physical | The examination is conducted<br>according to the reference<br>guide No.1042 for physical<br>examination of building plaster | Gypsum for construction                                        | IQS 28         |
| Mechanical<br>& Physical | - Dimensions<br>- Disparity                                                                                                 | Silica refractories for use<br>in class melting                | IQS 1749       |

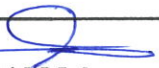
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| Mechanical & Physical | <ul style="list-style-type: none"> <li>- Dimensions</li> <li>- Straightness</li> <li>- Perpendicularity</li> <li>- Congruence of panels</li> </ul>                                   | Specification for fiber building boards                        | Standard specification 717 |
| Mechanical & Physical | Determination of density                                                                                                                                                             | Fiber building boards definition classification                | IQS 1749                   |
| Mechanical & Physical | Dimension variation distortion and cracks                                                                                                                                            | Silica refractories for use in glass melting furnaces          | IQS 1749                   |
| Mechanical & Physical | <ul style="list-style-type: none"> <li>- Mass loss</li> <li>- Determination of moisture content</li> <li>- Straightness</li> <li>- Dimensions</li> <li>- Perpendicularity</li> </ul> | Fiber building boards                                          | IQS 717                    |
| Mechanical & Physical | Chips and cracks                                                                                                                                                                     | Silica refractories for use in glass melting furnaces          | IQS 1749                   |
| Mechanical & Physical | Aggregate particles in microns                                                                                                                                                       | Determination of particle size and shape of aggregates         | IQS 30                     |
| Mechanical & Physical | Flexor and compression                                                                                                                                                               | Portend cement and Clinker.                                    | IQS 5                      |
| Mechanical & Physical | <ul style="list-style-type: none"> <li>- Dimensions</li> <li>- Fracture</li> <li>- Tolerance</li> <li>- Water absorption</li> </ul>                                                  | terrazzo tiles with one layer for internal USE                 | IQS 5038                   |
| Mechanical & Physical | <ul style="list-style-type: none"> <li>- Dimensions</li> <li>- Absorption</li> <li>- Compression</li> <li>- Wild</li> </ul>                                                          | sold concrete interlocking paving units                        | IQS 1606                   |
| Mechanical & Physical | <ul style="list-style-type: none"> <li>- Appearance dimensions</li> <li>- grain density</li> </ul>                                                                                   | Filter sands and filter gravels for water purification filters | IQS:2000/1555              |



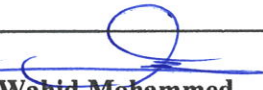
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| Mechanical<br>& Physical | - Determination of dissolved silica by mass method                                                                                                             | Alkali potential reactivity of coarse and fine aggregates used in concrete cardinal method | IQS 42   |
| Mechanical<br>& Physical | Fine or coarse aggregate                                                                                                                                       | Aggregate for concrete and building                                                        | IQS:45   |
| Mechanical<br>& Physical | Determine the increase and decrease in abrasion or impact wear fine or coarse aggregate                                                                        | Materials for soil                                                                         | IQS:1693 |
| Mechanical<br>& Physical | Effect of humidity change after water immersion bending resistance modulus of elasticity internal cross linking                                                | standard solid panels                                                                      | IQS 548  |
| Mechanical<br>& Physical | Water absorption drought shrinkage maximum drying shrinkage pressure tolerance                                                                                 | sand-lime blocks and bricks                                                                | IQS 548  |
| Mechanical<br>& Physical | - Soft point<br>- Flash point<br>- Permeability<br>- Viscosity temperature                                                                                     | asphalt used in roofing                                                                    | IQS 1196 |
| Mechanical<br>& Physical | - Residual after evaporation<br>- Non-volatile materials<br>- Water ratio<br>- Drought<br>- Heat<br>- Plasticity<br>- Water resistance<br>- Direct flame check | emulsified asphalt used as protective coating for roofing                                  | IQS 1173 |

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| Mechanical<br>& Physical | <ul style="list-style-type: none"> <li>- Nominal size</li> <li>- flow rate</li> <li>- final connections</li> </ul>                                                       | building valves                                                                 | IQS 5008/2017                                 |
| Mechanical<br>& Physical | <ul style="list-style-type: none"> <li>- Permeability</li> <li>- softening point</li> <li>- liquidity</li> <li>- correlation</li> <li>- asphalt compatibility</li> </ul> | joint and crack sealants ,hot applied for concrete and asphalt pavements        | IQS 1110/2016                                 |
| Mechanical<br>& Physical | <ul style="list-style-type: none"> <li>- Dimensions</li> <li>- absorption</li> <li>- tolerance</li> <li>- compressive strength</li> </ul>                                | clay building bricks                                                            | IQS 24<br>IQS 25                              |
| Mechanical<br>& Physical | <ul style="list-style-type: none"> <li>- Penetration</li> <li>- Liquidity</li> <li>- correlation</li> </ul>                                                              | concrete joint sealer , cold application type                                   | IQS 1288/1988                                 |
| Mechanical<br>& Physical | <ul style="list-style-type: none"> <li>- Viscosity</li> <li>- distillation</li> <li>- permeability penetration</li> <li>- liquidity</li> <li>- correlation</li> </ul>    | asphalt primer                                                                  | IQS 1195/2015                                 |
| Mechanical               | L.O.I                                                                                                                                                                    | Cement and Gypsum                                                               | IQS 472+A5<br>IQS 273                         |
| Mechanical               | Setting time by Vicat                                                                                                                                                    | Cement                                                                          | IQS 198+A3                                    |
| Mechanical               | Flexural strength                                                                                                                                                        | Cement and Gypsum                                                               | IQS 198+A3,<br>IQS 273                        |
| Mechanical               | Compressive strength                                                                                                                                                     | Cement, Gypsum,                                                                 | IQS 198+A3 IQS1042                            |
| Physical                 | Dimensions                                                                                                                                                               | Stones and Cellular Concrete<br>Blocks[thermstone],Clay<br>building brick, Clay | IQS 65/3<br>IQS 810:09<br>IQS 24<br>ASTM C 67 |



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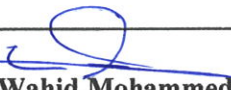
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|            |                               | facing brick                                                                                                |                                                                    |
| Mechanical | Soundness by Le Chatelier     | Cement                                                                                                      | IQS 198+A3                                                         |
| Chemical   | Free Water                    | Gypsum                                                                                                      | IQS 273                                                            |
| Chemical   | Combined Water                | Gypsum                                                                                                      | IQS 273                                                            |
| Physical   | Fineness                      | Gypsum                                                                                                      | IQS 28<br>IQS 1042                                                 |
| Physical   | Setting Time                  | Gypsum                                                                                                      | IQS 28<br>IQS 1042                                                 |
| Physical   | Module of rupture             | Gypsum                                                                                                      | IQS 28<br>IQS 1042                                                 |
| Mechanical | Dimension & Shape             | Terrazzo Tiles                                                                                              | IQS 31                                                             |
| Mechanical | Total Water Absorption        | Terrazzo Tiles                                                                                              | IQS 31                                                             |
| Mechanical | Water Absorption by tile-face | Terrazzo Tiles                                                                                              | IQS 31                                                             |
| Mechanical | Transverse Strength           | Terrazzo Tiles                                                                                              | IQS 31                                                             |
| Mechanical | Water Absorption              | Ceramic tiles and<br>Cellular Concrete Blocks<br>[thermstone], Clay<br>building brick, Clay<br>facing brick | ISO 10545-3:2019,<br>IQS 810:09,<br>IQS 24:1988,<br>ASTM C 67:2021 |
| Mechanical | Dimension & surface quality   | Ceramic tiles                                                                                               | ISO 10545- 2:2018                                                  |
| Mechanical | Breaking Strength             | Ceramic tiles                                                                                               | ISO 10545- 4:2019                                                  |
| Mechanical | Modulus of Rupture            | Ceramic tiles and<br>Dimension Stones                                                                       | ISO 10545- 4:2019                                                  |



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| Mechanical            | Water absorption & bulk density                                                                                                   | Dimension Stones                      | IQS 1387:2017                       |
| Mechanical            | Standard Test Method for Quantitative Determination of Phases in Portland Cement Clinker by Microscopically Point-Count Procedure | Portland Cement Clinker               | ASTM C1356-07                       |
| Mechanical            | Strength test [with & across fiber grain]                                                                                         | Bitumen felt waterproofing[isogram]   | IQS 4+A1:2013                       |
| Mechanical            | Loss on heating                                                                                                                   | Bitumen felt waterproofing[isogram]   | IQS 4+A1:2013                       |
| Mechanical            | Thermal stability                                                                                                                 | Bitumen felt waterproofing[isogram]   | IQS 4+A1:2013                       |
| Mechanical            | Dimension Tolerance                                                                                                               | Cellular Concrete Blocks[thermstone]  | IQS 810:09                          |
| Mechanical            | Dry bulk Density                                                                                                                  | Cellular Concrete Blocks [thermstone] | IQS 810:09                          |
| Mechanical            | Initial Tensile Adhesion Strength Test                                                                                            | Cementations Adhesives                | ISO 13007-2:2013<br>EN 12004-2:2017 |
| Mechanical            | Tensile Adhesion Strength after water immersion                                                                                   | Cementations Adhesives                | ISO 13007-2:2013<br>EN 12004-2:2017 |
| Mechanical            | Tensile Adhesion Strength after heat aging                                                                                        | Cementations Adhesives                | ISO 13007-2:2013<br>EN 12004-2:2017 |
| Mechanical            | Determination of Slip                                                                                                             | Cementations Adhesives                | ISO 13007-2:2013<br>EN 12004-2:2017 |
| Mechanical            | Extended open time                                                                                                                | Cementations Adhesives                | ISO 13007-2:2013<br>EN 12004-2:2017 |
| Mechanical            | Flexural breaking                                                                                                                 | Gypsum Board                          | ASTM C 473:2019                     |
| Mechanical & Physical | Flexure and compression                                                                                                           | PRE-cast concrete kerbs and channels  | IQS 5164/2022                       |



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| Biological               | Detection and identification<br>Pseudomonas aeruginosa.                                            | Cosmetics                                                  | ISO 22717                           |
| Biological               | Enumeration and detection<br>of aerobic mesophilic<br>bacteria                                     | Cosmetics                                                  | ISO 21149:2017                      |
| Mechanical<br>& Physical | Check cheripple<br>hot water check                                                                 | silvered glass<br>mirrors for general<br>purposes          | IQS 1137/2020                       |
| Mechanical<br>& Physical | Dimensions outer diameter<br>and thickness                                                         | seamless steel tubes for<br>heat exchangers                | IQS 1750/2022                       |
| Mechanical<br>& Physical | - Abrasion resistance<br>- alkali resistance<br>- acid resistance<br>- hot water resistance        | baths made<br>from porcelain cast iron                     | IQS 1688/1991                       |
| Mechanical<br>& Physical | Dimensions the parts are non-<br>metallic membrane durability<br>aging of the membrane<br>material | low pressure regulator<br>for vales of LPG<br>cylinders    | IQS 1287/1988                       |
| Mechanical<br>& Physical | Stretch and elongate and<br>bending                                                                | Iron test                                                  | ASTM A370<br>ASTM A615M             |
| Mechanical               | - Tensile strength<br>- Yield strength<br>- Elongation                                             | Ribbed carbon-steel bars<br>for concrete<br>reinforcements | ASTM A370<br>ASTM 615               |
| Mechanical               | - Tensile Strength<br>- Yield Strength<br>- Elongation                                             | Ribbed Carbon-Steel<br>Bars for Concrete<br>Reinforcements | ISO 6892-1/2019<br>ISO 15630-1/2019 |
| Mechanical               | - Tensile Strength<br>- Yield Strength<br>- Elongation                                             | Ribbed Carbon-Steel<br>Bars for Concrete<br>Reinforcements | BS 4449/2016                        |
| Mechanical               | Mass per unit length<br>tolerance                                                                  | Steel Bars for concrete<br>reinforcement                   | ASTM E8M:2022,<br>BS 4449:2016      |



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| Mechanical | - Tensile strength<br>- Yield strength<br>- Elongation | Steel Bars for concrete reinforcement                                                                                                               | ASTM A370<br>ASTM A615                                       |
| Mechanical | - Bend Test<br>- Re-bend test                          | Steel Bars for concrete reinforcement                                                                                                               | ASTM E290:2022,<br>ISO 7438:2016,<br>ISO 7438:2016           |
| Mechanical | Diameter tolerance                                     | Steel Bars for concrete reinforcement                                                                                                               | ISO 6892-1:2109                                              |
| Mechanical | Tensile strength, Yield strength after ageing          | Steel Bars for concrete reinforcement                                                                                                               | ISO 6892-1:2109,<br>ISO 6892-1:2019                          |
| Mechanical | Elongation(after fracture, total Eat max force)        | Steel Bars for concrete Reinforcement                                                                                                               | ISO 15630-1:2019,<br>ISO 15630-1:2019                        |
| Physical   | Markings                                               | Steel Bars for concrete reinforcement                                                                                                               | ISO 6935:2019                                                |
| Mechanical | Tensile strength                                       | Textile                                                                                                                                             | IQS 930                                                      |
| Physical   | Geometrical Characteristics                            | PVC-U pipes within the building structure<br>PVC-U pipes for non-pressure underground pipes Polyethylene (PE) pipes for water supply & for drainage | ISO 3126:2005, IQS 1512:2022, IQS 5037:2022, ISO 4427-2:2019 |
| Physical   | Impact resistance (round the clock method)             | PVC-U pipes                                                                                                                                         | EN ISO 3127:2017, IQS 1512:2022, IQS 5037:2022               |
| Physical   | Vicat softening temperature                            | PVC-U pipes                                                                                                                                         | EN ISO 2507-1:2017<br>IQS 1512:2022, IQS 5037:2022           |
| Physical   | Longitudinal reversion (air oven method)               | PVC-U pipes & PE pipes                                                                                                                              | EN ISO 2505:2005<br>IQS 1512:2022, IQS 5037:2022, ISO 2505   |
| Chemical   | Identification plastic type                            | Plastic                                                                                                                                             | ISO 11469                                                    |



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| Mechanical & Physical     | <ul style="list-style-type: none"> <li>- Dimensions</li> <li>- resistance to stretching</li> <li>- elongation</li> </ul>                        | PVC insulated and sheathed flat cables for fixed installations                                     | IQS:2313/ 2014        |
| Mechanical & Physical     | <ul style="list-style-type: none"> <li>- Thickness</li> <li>- Bastard</li> <li>- Electrical</li> <li>- Mechanical</li> <li>- Thermal</li> </ul> | The rmoplastic insulated and rubber or the rmoplastic covered flat cables of rated voltage (400 v) | IQS:2200/ 2002        |
| Petroleum & Petrochemical | Standard Test Method for Density, Relative Density, and API Gravity of Crude Oils by Digital Density Analyzer                                   | Crude Oil                                                                                          | ASTM D5002            |
| Petroleum & Petrochemical | Water and Sediment in Crude Oil by the Centrifuge Method (Laboratory Procedure)                                                                 | Crude Oil                                                                                          | ASTM D4007            |
| Petroleum & Petrochemical | Density, relative density, or API gravity of crude petroleum and liquid petroleum products by hydrometer method                                 | Crude Oil                                                                                          | ASTM D1298            |
| Petroleum & Petrochemical | Standard test method for water in crude oil by distillation                                                                                     | Crude Oil                                                                                          | ASTM D4006            |
| Petroleum & Petrochemical | Sulfur in Petroleum and Petroleum Products by Energy Dispersive X-ray Fluorescence Spectrometry                                                 | Crude Oils                                                                                         | ASTM D4294            |
| Petroleum & Petrochemical | Vapor Pressure of Petroleum Products (Reid Method)                                                                                              | Crude Oils                                                                                         | ASTM D323             |
| Petroleum & Petrochemical | Flash point                                                                                                                                     | Gasoil and Oil                                                                                     | ASTM D 7094, ASTM D92 |



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| Petroleum & Petrochemical | Pour point and cloud point                                                                                                       | Gasoil and Oil                                                    | ASTM D 97               |
| Petroleum & Petrochemical | Freezing point                                                                                                                   | Fuel (Kerosene, gasoil, gasoline, Naphtha, ethanol, etc.) and oil | ASTM D97                |
| Petroleum & Petrochemical | Density                                                                                                                          | Fuel (Kerosene, gasoil, gasoline, Naphtha, ethanol, etc.) and oil | ASTM D4052 (Densometer) |
| Petroleum & Petrochemical | Distillation                                                                                                                     | Fuel (Kerosene, gasoil, gasoline, Naphtha, ethanol, etc.)         | ASTM D86                |
| Petroleum & Petrochemical | Determination of Biodiesel (Fatty Acid Methyl Ester) and Triglyceride Content in Diesel Fuel Oil Using Mid-Infrared Spectroscopy | Gasoil and gasoline                                               | ASTM D7806              |
| Petroleum & Petrochemical | Viscosity                                                                                                                        | Fuel (Kerosene, gasoil, gasoline, Naphtha, ethanol, etc.) and oil | ASTM D445               |
| Petroleum & Petrochemical | Sulfur content                                                                                                                   | Fuel (Kerosene, gasoil, gasoline, Naphtha, ethanol, etc.) and oil | ASTM D2622              |
| Petroleum & Petrochemical | Heavy metals and trace elements                                                                                                  | Fuel (Kerosene, gasoil, gasoline, Naphtha, ethanol, etc.) and oil | ASTM D8064 (XRF)        |
| Petroleum & Petrochemical | Vapor pressure                                                                                                                   | Gasoline                                                          | ASTM D5191              |
| Petroleum & Petrochemical | Octane number                                                                                                                    | Gasoline                                                          | ASTM D 5845             |



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| Petroleum & Petrochemical | Benzene content                                        | Gasoline                                                                      | ASTM D 6277        |
| Petroleum & Petrochemical | Olefin content                                         | Gasoline                                                                      | ASTM D 4052        |
| Petroleum & Petrochemical | Aromatic content                                       | Gasoline                                                                      | ASTM D 4052        |
| Petroleum & Petrochemical | Oxygen & oxygenate content                             | Gasoline                                                                      | ASTM D 4052        |
| Electrical                | - Determination of Voltage,<br>- Capacity<br>- Density | Batteries                                                                     | IEC 60095-1: 2018  |
| Agricultural              | Seed germination and viability                         | Cereal, seed and grains                                                       | Bio-protocol/e 884 |
| Mechanical & Physical     | Visual basic                                           | Wooden sticks used for ice cream                                              | IQS 702            |
| Mechanical & Physical     | Thickness and moisture content                         | Plywood specification for construction of panels and characteristics of plies | IQS 1637/1991      |
| Mechanical & Physical     | Moisture content                                       | Plywood specification for tolerances on the dimensions                        | IQS 1638/1991      |
| Mechanical & Physical     | - Thickness<br>- Offer<br>- High                       | School furniture class room chairs and for use in secondary                   | IQS:1779/1992      |
| Mechanical & Physical     | - Thickness<br>- offer<br>- High                       | School furniture classroom chairs and tables for use in primary schools       | IQS:1781/1993      |