

**QUALITY CERTIFICATE**

№ 2404-138 Date: 15.04.2024

**Manufacturer: PlasmaTec LLC**  
**18 Pravednykiv svitu str., Vinnytsia, Vinnytsia region,**  
**Vinnytsia district, Ukraine, 21036**

| Product   |  |
|---|--|
| <b>Welding electrodes Monolith 7018-1 H4R TM MONOLITH d 2.5 mm: vacuum 2 kg</b> |  |

|   |   |
|---|---|
| <b>Specification/Classification</b>                   | AWS A5.1 / SFA-5.1: E7018-1 H4R<br>CSA W48 E4918-1 H4<br>EN ISO 2560-A- E 46 5 B 3 2 H5 |
| <b>Batch classification according to EN ISO 14344</b> | <b>C5</b>   |
| <b>Lot Number</b>                                     | <b>009</b>  |

**Mechanical properties of weld metal according to EN 10204, type 2.2**

| Index   | Requirements  |            | Typical data |
|---|---------------|------------|--------------|
|   | (EN ISO 2560) | (AWS A5.1) |              |
| <b>Tensile strength, MPa (N/mm<sup>2</sup>) / (ksi)</b> | 530 - 680     | min. 70    | 545 (79)     |
| <b>Elongation, %</b>                                    | min. 20       | min. 22    | 32           |
| <b>Yield strength, MPa (N/mm<sup>2</sup>) / (ksi)</b>   | min. 460      | min. 58    | 475 (69)     |
| <b>Impact energy (KV), J (-50°C) / (-45°C/-50°F)</b>    | min. 47       | min. 27    | 98/52/41     |
| <b>Diffusible hydrogen, ml/100g</b>                     | max. 5        | max. 4     | 1.8          |

**Chemical analysis of weld metal, % according to EN 10204, type 3.1**

| Index                | Requirements (AWS A5.1) | Actual data |
|----------------------|-------------------------|-------------|
| <b>C</b>             | max. 0.15               | 0.09        |
| <b>Si</b>            | max. 0.75               | 0.7         |
| <b>Mn</b>            | max. 1.6                | 1.5         |
| <b>P</b>             | max. 0.035              | 0.026       |
| <b>S</b>             | max. 0.035              | 0.007       |
| <b>Cr</b>            | max. 0.2                | 0.06        |
| <b>Ni</b>            | max. 0.3                | 0.03        |
| <b>Mo</b>            | max. 0.3                | 0.01        |
| <b>V</b>             | max. 0.08               | 0.01        |
| <b>Mn+Cr+Ni+Mo+V</b> | max. 1.75               | 1.61        |

**Post weld heat treatment - As welded**

The product was manufactured and supplied according to a Quality System Program that meets the requirements of ISO 9001. The manufacturer guarantees that the product meets the requirements of the specification(s) indicated. The delivery conditions are in accordance with EN ISO 14344.

**Head of Technical Control: Andrii Babyn**



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**Lot Number identification: 001 3.2 XO** (example of Lot number), where  
**001** – actual Lot Number, 3.2 XO - additional information (3.2 - electrode size in mm; X - pressing team, O - packing team).