COD QC-3.1-Ed.2 REV 6/2017



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TMK-ARTROM S.A.

| INSPECTION CERTIFICATE - EN 10204: 2004 / 3.1  |  |        |                      |        |        |      |                   |      |  |   |  |                            |                                   |        |  |  |
|--|--|--------|----------------------|--------|--------|------|-------------------|------|--|---|--|----------------------------|-----------------------------------|--------|--|--|
| No: I 7  |  | Mar    | Manufacturer's mark: |        |        |      | Customer Order No |      |  |   | 3  | PL: 1485                   |                                   |        |  |  |
|  | 31.10.202  |        |                      |        |        |      |                   |      |  |   |  |                            |                                   |        |  |  |
| CUSTOMER: NIMFA-COM SRL  |  |        |                      |        |        |      |                   |      |  |   |  |                            |                                   |        |  |  |
| Specification: Dimensions: 88.9 x 4 x 6 000+100/-0 mm  |  |        |                      |        |        |      |                   |      |  |   |  |                            |                                   |        |  |  |
|  |  |        |                      |        |        |      |                   |      |  | 5355J2H/ P355NL1 TC1/   |  |                            |                                   |        |  |  |
|  | EN 10216-2:13/ EN 10216-1:13P265GH TC1/ P265TR2Description: Hot rolled seamless steel pipes; unprotected; marking by painting at one end: manufacturer's marking             |        |                      |        |        |      |                   |      |  |   |  |                            |                                   |        |  |  |
| standard, steel grade, heat no, LOT, LENGTH (m), mill inspector no. 5, technical control sign  |  |        |                      |        |        |      |                   |      |  |   |  |                            |                                   |        |  |  |
| Heat No.: R59547 Steel melt and rolled in ROMANIA  |  |        |                      |        |        |      |                   |      |  |   |  |                            |                                   |        |  |  |
| Quantity delivered   |  |        |                      | Pcs.   |        |      | Length - m        |      |  |   | Weight– Kg                                     |                            |                                   |        |  |  |
|  |  |        |                      | 73     |        |      | 438.0             |      |  |   | 3680   |                            |                                   |        |  |  |
| Ladle Chemical Analysis [%]  |  |        |                      |        |        |      |                   |      |  |   |  |                            |                                   |        |  |  |
| С  | Mn   | S      | Р                    | Si     | Ni     | Cr   | Mo                | _    | 'u   | Al  | Nb   | Ti                         | V                                 | CE     |  |  |
| 0.18   | 1.20   | 0.003  | 0.012                | 0.24   | 0.08   | 0.08 | 0.02              | 0.2  | 25   | 0.023   | 0.001  | 0.001                      | 0.002                             | 0.422  |  |  |
| Cr+Cu+Mo+Ni=0.43 Nb+V=0.003 Nb+V+Ti=0.004 N=0.009<br>Mechanical Properties   |  |        |                      |        |        |      |                   |      |  |   |  |                            |                                   |        |  |  |
|  |  | ,<br>, | FENSI                | F TFST |        |      |                   | rues |  |   | <b>Rp</b> 0,2                                  | I                          | Rm                                | A      |  |  |
| TENSILE TEST (EN ISO 6892-1)<br>– at room temperature-   |  |        |                      |        |        |      |                   |      |  |   | N/mm <sup>2</sup>                              |                            | mm <sup>2</sup>                   | A<br>% |  |  |
| Test Specimen / Strip–longitudinal   |  |        |                      |        |        |      |                   |      |  |   |  |                            |                                   |        |  |  |
| Dimension (mm): 15.65 x 4.25   |  |        |                      |        |        |      |                   |      |  |   |  |                            |                                   |        |  |  |
| Section (mm <sup>2</sup> ): 66.89 393 542 30   |  |        |                      |        |        |      |                   |      |  |   |  |                            |                                   | 30     |  |  |
| Length - (Lo) (mm): 45   Drift expanding test Flattening test Charpy V – Notch (EN ISO 14  |  |        |                      |        |        |      |                   | 8-1) |  |   | Ring te  | nsile test                 |                                   |        |  |  |
|  | SO 8493 )  |        | N ISO 849            |        | aipy i | -    |                   |      |  | (EN ISO 8496)   |  |                            |                                   |        |  |  |
| _  | OK   |        | OK                   |        |        |      |                   |      |  |   |  |                            |                                   |        |  |  |
|  | Heat treatment: normalized temperature between 880-940 <sup>o</sup> C Melting process: electric arc furnace, fully killed  |        |                      |        |        |      |                   |      |  |   |  |                            |                                   |        |  |  |
| Test Eddy Current cf. EN ISO 10893-1: OK<br>Visual inspection and dimensional check: OK  |  |        |                      |        |        |      |                   |      |  |   |  |                            |                                   |        |  |  |
| The manufacturer of pipes is certified in acc. with ISO 9001: 2015, ISO  |  |        |                      |        |        |      |                   |      |  |   |  |                            |                                   |        |  |  |
| 14001:2015 and ISO 45001:2018<br>NO WELD REPAIR ON HEREBY CERTIFIED TUBES  |  |        |                      |        |        |      |                   |      |  | 0036- CPR-M-008-2007<br>TMK-ARTROM S.A. Draganesti Street, No.30, |  |                            |                                   |        |  |  |
|  |  |        |                      |        |        |      |                   |      |  |   |  | 119, SLATINA, OLT, ROMANIA |                                   |        |  |  |
| selenium, or sulphur to improve machinability"<br>Cli i f c c c c c machinability 15 1 P l p l p l p l p l p l p l p l p l p l                             |  |        |                      |        |        |      |                   |      |  |   |  |                            |                                   |        |  |  |
|  | Chief of QC & Testing of the Metallurgical Tubes Products  |        |                      |        |        |      |                   |      |  |   | EN 10210-1:2006                                |                            |                                   |        |  |  |
| THK-ARTR   | Dipl. Eng. Silviu Barbulescu   |        |                      |        |        |      |                   |      |  |   | S355J2H / 1.0576                               |                            |                                   |        |  |  |
| CCTPHT -   |  |        |                      |        |        |      |                   |      | intended to be used in metal structures or in composite  |   |  |                            |                                   |        |  |  |
| MILL INSPECTOR   |  |        |                      |        |        |      |                   |      |  | Tolerances:   |  |                            |                                   |        |  |  |
| Eng. Constantin Lupu   |  |        |                      |        |        |      |                   |      |  | Elongation:   |  |                            |                                   |        |  |  |
|  |  |        |                      |        |        |      |                   |      | Tensile strength:<br>Yield strength:<br>Impact strength: |   |  | expre                      | expressed as indicated in the DoP |        |  |  |
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|  |  |        |                      |        |        |      |                   |      |  | dability:<br>ability <b>:</b>                                     |  |                            |                                   |        |  |  |
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