| DHV VALVE GROUP | MATERIAL TEST REPORT<br>TEST CERTIFICATE<br>ISO 9001:2015, API Q1: 9TH ED | REPORT NO. | M18120428 |
|---|---|---|---|
| | | DATE | Dec/4/2018 |
| | | PAGE | 1 of 7 |

| CUSTOMER | CUSTOMER P.O. | | DHV CONTROL NO. | ITEM NO. | LINE NO./CODE |
|---|---|---|---|---|---|
| ALTEK Industrial | ST4148 | | SO1802034 | 18 | NA |
| **FIGURE NUMBER** | **SIZE** | **CLASS** | **END TYPE** | **QTY.** | **TAG NO.** |
| B2150F32 | 6"X4"RB | 150LB | RF Flange | 20 PCS | NA |
| **VALVE TYPE** | **VALVE DESCRIPTION** | | **OPERATE OP** | **SERIAL NUMBER** | |
| FLOATING BALL VALVE | Two-Piece Body,<br>A216 WCB Body, 316SS Trim,<br>R-PTFE Seat Insert | | Lever Op | 18022823-18022842 | |
| **DESIGN STANDARD** | **QSL** | | **FIRE SAFE** | **I.A.W. N.A.C.E.** | |
| API 608-2012 | ☐ QSL 1<br>☐ QSL 3 | ☐ QSL 2<br>☐ QSL 4 | ☐ API 6FA, 3RD.Ed<br>■ API 607, 6TH.Ed | ☐ NACE MR-0175/ISO15156<br>■ NACE MR-0103-2012 | |

**SEALING SURFACE AND BASE MATERIAL**

| NAME OF PART | BODY | CAP | BALL | SEAT ASSEMBLY | STEM |
|---|---|---|---|---|---|
| BASE MATERIAL | A216 WCB | A216 WCB | A182 F316 | R-PTFE | A182 F316 |
| FACE MATERIAL | NA | NA | NA | R-PTFE | NA |
| **NAME OF PART** | **BOLT/STUDS** | **NUTS** | **GASKET** | | |
| BASE MATERIAL | A193 B7M | A194 2HM | SS+GRAPHITE | | |
| FACE MATERIAL | NA | NA | NA | | |

**PRESSURE TEST REPORT**

**Have been tested good according to API 598 & CSA Z245.15-17 and the purchase order requirememts**

| | SHELL (HYDROSTATIC) | SEAT CLOSURE TESTING | | | | OTHER |
|---|---|---|---|---|---|---|
| | | H.P. CLOSURE (HYDROSTATIC) ■ REQUIRED ☐ OPTIONAL | | L.P. CLOSURE (AIR) ■ REQUIRED ☐ OPTIONAL | | |
| | | UP STREAM | DOWN STREAM | UP STREAM | DOWN STREAM | |
| PRESSURE ( PSIG) | 450 | 325 | 325 | 80 | 80 | NA |
| DURATION (Minutes) | 5 | 5 | 5 | 5 | 5 | NA |
| RESULT | GOOD | GOOD | GOOD | GOOD | GOOD | |

**OTHER INSPECTION**

| | DIMENSION | MARKING | PAINTING | PACKAGE | FUNCTIONAL | VISUAL | OTHER |
|---|---|---|---|---|---|---|---|
| RESULT | GOOD | GOOD | GOOD | GOOD | GOOD | MSS SP-55-GOOD | NA |

We hereby certify that valves listed above were manufactured, tested and inspected in accordance with the applicable valve standards and other requirements designated in the purchase order. The information contained in this report is true and correct to the best of our knowledge.

WITNESSED BY:

DHV Industries, Inc.
3451 Pegasus Drive
Bakersfield, CA 93308. U.S.A

QUALITY ASSURANCE MANAGER

Terry Gonsman
Quality Assurance Manager

**This certificate is in compliance with EN 10204 3.1.**

| DHV VALVE GROUP | MATERIAL TEST REPORT<br>VALVE TRACEABILITY<br>ISO 9001:2015, API Q1: 9TH ED | REPORT NO. | M18120428 |
|---|---|---|---|
| | | DATE | Dec/4/2018 |
| | | PAGE | 2 of 7 |

| CUSTOMER | CUSTOMER P.O. | VALVE TYPE | SIZE/CLASS | FIGURE NUMBER |
|---|---|---|---|---|
| ALTEK Industrial | ST4148 | FLOATING BALL VALVE | 6"X4"RB 150LB | B2150F32 |

**CRATE NO.:** 23-24 **QUANTITIES:** 20 PCS

| SERIAL NO. | MATERIAL AND HEAT NUMBER | | | | OTHER | REMARKS |
|---|---|---|---|---|---|---|
| | BODY | CAP | BALL | STEM | | |
| | A216 WCB | A216 WCB | A182 F316 | A182 F316 | | |
| 18022823 | L8250 | L8277 | ZC1298 | HH1801 | | |
| 18022824 | L8536 | L4456 | ZC1298 | HH1801 | | |
| 18022825 | L7836 | L6835 | ZC1298 | HH1801 | | |
| 18022826 | L8506 | L8273 | ZC1298 | HH1801 | | |
| 18022827 | L8506 | L8257 | ZC1298 | HH1801 | | |
| 18022828 | L8279 | L8506 | ZC1298 | HH1801 | | |
| 18022829 | L8243 | L8277 | ZC1298 | HH1801 | | |
| 18022830 | L8295 | L8292 | ZC1298 | HH1801 | | |
| 18022831 | L8250 | L6691 | ZC1298 | HH1801 | | |
| 18022832 | L8243 | L6831 | ZC1298 | HH1801 | | |
| 18022833 | L8250 | L7618 | ZC1298 | HH1801 | | |
| 18022834 | L7829 | L8243 | ZC1298 | HH1801 | | |
| 18022835 | L8277 | L8250 | ZC1298 | HH1801 | | |
| 18022836 | L8243 | L4496 | ZC1298 | HH1801 | | |
| 18022837 | L8250 | L8506 | ZC1298 | HH1801 | | |
| 18022838 | L8279 | L6697 | ZC1298 | HH1801 | | |
| 18022839 | L8264 | L8277 | ZC1298 | HH1801 | | |
| 18022840 | L8308 | L6673 | ZC1298 | HH1801 | | |
| 18022841 | L8264 | L6691 | ZC1298 | HH1801 | | |
| 18022842 | L8243 | L6683 | ZC1298 | HH1801 | | |

| DHV VALVE GROUP | MATERIAL TEST REPORT<br>MILL CERTIFICATE<br>ISO 9001:2015, API Q1: 9TH ED | REPORT NO. | M18120428 |
|---|---|---|---|
| | | DATE | Dec/4/2018 |
| | | PAGE | 3 of 7 |

| CUSTOMER | CUSTOMER P.O. | VALVE TYPE | SIZE/CLASS | FIGURE NUMBER |
|---|---|---|---|---|
| ALTEK Industrial | ST4148 | FLOATING BALL VALVE | 6"X4"RB 150LB | B2150F32 |

| MATERIAL | ASTM A216 WCB | MATERIAL ORIGIN | P.R.C. |
|---|---|---|---|

**HEAT TREATMENT**

| HEAT TREATMENT | TEMP.°C | TIME @ TEMP. °C (HR) | FURNACE | COOLING PROCESS | REMARK |
|---|---|---|---|---|---|
| Normalize | 920 | 1h/25mm,≥2h | Gas | Air cooling to room temp. | |

**CHEMICAL AND MECHANICAL TEST REPORT**

**Have been tested good according to the material specification and purchase order requirements**

| STD / HEAT NO. | CHEMICAL COMPOSITION % ( ≤ ) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | C | Mn | P | S | Si | Cu | Ni | Cr | Mo | V | Bal. | AL | N | CE |
| STD | 0.300 | 1.000 | 0.035 | 0.035 | 0.600 | 0.300 | 0.500 | 0.500 | 0.200 | 0.030 | 1.000 | - | - | 0.430 |
| | MECHANICAL PROPERTIES (≥ ) | | | | | | | | | | | | | |
| | T.S. MPa | Y.S. MPa | EL. (%) | R.A. (%) | HARD (HB)(≤) | IMPACT TEST (-°C) J | | | | | | | | |
| STD | 485-655 | 250 | 22 | 35 | - | - | | | | | | | | |
| L4456 | 0.200 | 0.940 | 0.019 | 0.011 | 0.431 | 0.022 | 0.022 | 0.043 | 0.006 | 0.004 | 0.097 | - | - | 0.370 |
| | 502 | 298 | 32 | 52 | 152 | - | - | - | | | | | | |
| L4496 | 0.186 | 0.940 | 0.020 | 0.012 | 0.440 | 0.019 | 0.018 | 0.046 | 0.004 | 0.003 | 0.090 | - | - | 0.356 |
| | 510 | 320 | 30 | 52 | 155 | - | - | - | | | | | | |
| L6673 | 0.219 | 0.930 | 0.022 | 0.014 | 0.463 | 0.028 | 0.019 | 0.047 | 0.005 | 0.004 | 0.103 | - | - | 0.388 |
| | 510 | 265 | 30 | 55 | 153 | - | - | - | | | | | | |
| L6663 | 0.197 | 0.960 | 0.025 | 0.013 | 0.454 | 0.029 | 0.018 | 0.038 | 0.004 | 0.003 | 0.092 | - | - | 0.369 |
| | 510 | 265 | 26 | 52 | 153 | - | - | - | | | | | | |
| L6691 | 0.201 | 0.950 | 0.021 | 0.013 | 0.434 | 0.028 | 0.023 | 0.057 | 0.006 | 0.003 | 0.117 | - | - | 0.376 |
| | 515 | 325 | 28 | 55 | 156 | - | - | - | | | | | | |
| L6697 | 0.221 | 0.977 | 0.023 | 0.014 | 0.447 | 0.034 | 0.022 | 0.060 | 0.005 | 0.003 | 0.124 | - | - | 0.401 |
| | 520 | 335 | 33 | 51 | 156 | - | - | - | | | | | | |
| L6831 | 0.226 | 0.964 | 0.023 | 0.015 | 0.421 | 0.034 | 0.021 | 0.047 | 0.005 | 0.003 | 0.110 | - | - | 0.401 |
| | 530 | 330 | 31 | 51 | 159 | - | - | - | | | | | | |
| L6835 | 0.208 | 0.934 | 0.021 | 0.014 | 0.423 | 0.032 | 0.026 | 0.193 | 0.009 | 0.004 | 0.264 | - | - | 0.409 |
| | 510 | 320 | 34 | 60 | 153 | - | - | - | | | | | | |
| L7618 | 0.220 | 0.950 | 0.023 | 0.015 | 0.435 | 0.029 | 0.031 | 0.083 | 0.006 | 0.003 | 0.152 | - | - | 0.401 |
| | 525 | 314 | 32 | 60 | 145 | - | - | - | | | | | | |
| L7829 | 0.203 | 0.960 | 0.022 | 0.016 | 0.434 | 0.031 | 0.022 | 0.042 | 0.005 | 0.003 | 0.103 | - | - | 0.377 |
| | 517 | 331 | 27 | 65 | 150 | - | - | - | | | | | | |
| L7836 | 0.209 | 0.930 | 0.021 | 0.015 | 0.435 | 0.032 | 0.021 | 0.049 | 0.005 | 0.003 | 0.110 | - | - | 0.379 |
| | 525 | 338 | 35 | 59 | 147 | - | - | - | | | | | | |

We hereby certify that the material was manufactured, sampled, tested and inspected in accordance with the applicable material specifications and other requirements designated in the purchase order. The information contained in this report is true and correct to the best of our knowledge.

WITNESSED BY:

DHV Industries Inc
3451 Pegasus Drive
Bakersfield, CA 93308. U.S.A

QUALITY ASSURANCE MANAGER:

Terry Gonsman
Quality Assurance Manager

**This certificate is in compliance with EN 10204 3.1.**

| DHV VALVE GROUP | MATERIAL TEST REPORT<br>MILL CERTIFICATE<br>ISO 9001:2015, API Q1: 9TH ED | REPORT NO. | M18120428 |
|---|---|---|---|
| | | DATE | Dec/4/2018 |
| | | PAGE | 4 of 7 |

| CUSTOMER | CUSTOMER P.O. | VALVE TYPE | SIZE/CLASS | FIGURE NUMBER |
|---|---|---|---|---|
| ALTEK Industrial | ST4148 | FLOATING BALL VALVE | 6"X4"RB 150LB | B2150F32 |

| MATERIAL | ASTM A216 WCB | MATERIAL ORIGIN | P.R.C. |
|---|---|---|---|

**HEAT TREATMENT**

| HEAT TREATMENT | TEMP.°C | TIME @ TEMP. °C (HR) | FURNACE | COOLING PROCESS | REMARK |
|---|---|---|---|---|---|
| Normalize | 920 | 1h/25mm,≥2h | Gas | Air cooling to room temp. | |

**CHEMICAL AND MECHANICAL TEST REPORT**

**Have been tested good according to the material specification and purchase order requirements**

| STD / HEAT NO. | CHEMICAL COMPOSITION % (≤) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | C | Mn | P | S | Si | Cu | Ni | Cr | Mo | V | Bal. | AL | N | CE |
| STD | 0.300 | 1.000 | 0.035 | 0.035 | 0.600 | 0.300 | 0.500 | 0.500 | 0.200 | 0.030 | 1.000 | - | - | 0.430 |
| | MECHANICAL PROPERTIES (≥) | | | | | | | | | | | | | |
| | T.S. MPa | Y.S. MPa | EL. (%) | R.A. (%) | HARD (HB)(≤) | IMPACT TEST (-°C) J | | | | | | | | |
| | 485-655 | 250 | 22 | 35 | - | - | | | | | | | | |
| L8243 | 0.206 | 0.930 | 0.021 | 0.015 | 0.467 | 0.035 | 0.017 | 0.053 | 0.006 | 0.002 | 0.113 | - | - | 0.377 |
| | 521 | 322 | 29 | 61 | 146 | - | - | - | | | | | | |
| L8250 | 0.186 | 0.930 | 0.020 | 0.015 | 0.468 | 0.024 | 0.019 | 0.074 | 0.005 | 0.002 | 0.124 | - | - | 0.360 |
| | 521 | 318 | 33 | 61 | 149 | - | - | - | | | | | | |
| L8257 | 0.215 | 0.940 | 0.020 | 0.015 | 0.461 | 0.028 | 0.022 | 0.084 | 0.015 | 0.003 | 0.152 | - | - | 0.395 |
| | 518 | 300 | 30 | 59 | 148 | - | - | - | | | | | | |
| L8264 | 0.212 | 0.980 | 0.021 | 0.016 | 0.538 | 0.026 | 0.019 | 0.056 | 0.006 | 0.003 | 0.110 | - | - | 0.391 |
| | 537 | 348 | 30 | 61 | 155 | - | - | - | | | | | | |
| L8273 | 0.206 | 0.970 | 0.020 | 0.015 | 0.468 | 0.031 | 0.018 | 0.050 | 0.008 | 0.003 | 0.110 | - | - | 0.383 |
| | 511 | 318 | 27 | 57 | 152 | - | - | - | | | | | | |
| L8277 | 0.197 | 0.970 | 0.021 | 0.015 | 0.454 | 0.031 | 0.020 | 0.068 | 0.010 | 0.003 | 0.132 | - | - | 0.378 |
| | 514 | 317 | 34 | 59 | 146 | - | - | - | | | | | | |
| L8279 | 0.221 | 0.990 | 0.021 | 0.015 | 0.483 | 0.026 | 0.016 | 0.039 | 0.005 | 0.003 | 0.089 | - | - | 0.398 |
| | 523 | 321 | 38 | 53 | 152 | - | - | - | | | | | | |
| L8292 | 0.196 | 0.950 | 0.021 | 0.015 | 0.456 | 0.029 | 0.019 | 0.062 | 0.008 | 0.002 | 0.120 | - | - | 0.372 |
| | 525 | 299 | 32 | 60 | 146 | - | - | - | | | | | | |
| L8295 | 0.199 | 0.990 | 0.021 | 0.016 | 0.459 | 0.024 | 0.017 | 0.045 | 0.006 | 0.003 | 0.095 | - | - | 0.378 |
| | 605 | 387 | 32 | 37 | 149 | - | - | - | | | | | | |
| L8308 | 0.204 | 0.930 | 0.020 | 0.014 | 0.461 | 0.028 | 0.016 | 0.033 | 0.005 | 0.002 | 0.084 | - | - | 0.370 |
| | 527 | 334 | 33 | 55 | 150 | - | - | - | | | | | | |
| L8506 | 0.208 | 0.940 | 0.023 | 0.016 | 0.462 | 0.034 | 0.019 | 0.036 | 0.005 | 0.003 | 0.097 | - | - | 0.377 |
| | 516 | 280 | 30 | 43 | 150 | - | - | - | | | | | | |
| L8536 | 0.200 | 0.940 | 0.024 | 0.016 | 0.467 | 0.044 | 0.020 | 0.049 | 0.004 | 0.003 | 0.120 | - | - | 0.372 |
| | 524 | 338 | 36 | 66 | 149 | - | - | - | | | | | | |

We hereby certify that the material was manufactured, sampled, tested and inspected in accordance with the applicable material specifications and other requirements designated in the purchase order. The information contained in this report is true and correct to the best of our knowledge.

WITNESSED BY:

DHV Industries, Inc.
3451 Pegasus Drive
Bakersfield, CA 93308. U.S.A

QUALITY ASSURANCE MANAGER:
Terry Gonsman
Quality Assurance Manager

**This certificate is in compliance with EN 10204 3.1.**

| DHV VALVE GROUP | MATERIAL TEST REPORT<br>MILL CERTIFICATE<br>ISO 9001:2015, API Q1: 9TH ED | REPORT NO. | M18120428 |
|---|---|---|---|
| | | DATE | Dec/4/2018 |
| | | PAGE | 5 of 7 |

| CUSTOMER | CUSTOMER P.O. | VALVE TYPE | SIZE/CLASS | FIGURE NUMBER |
|---|---|---|---|---|
| ALTEK Industrial | ST4148 | FLOATING BALL VALVE | 6"X4"RB 150LB | B2150F32 |

| MATERIAL | ASTM A182 F316 | MATERIAL ORIGIN | P.R.C. |
|---|---|---|---|

**HEAT TREATMENT**

| HEAT TREATMENT | TEMP.°C | TIME @ TEMP. °C (HR) | FURNACE | COOLING PROCESS | REMARK |
|---|---|---|---|---|---|
| Solution | 1040 | 1h/25mm,≥1h | Elec | Water cooling to room temp. | |

**CHEMICAL AND MECHANICAL TEST REPORT**

**Have been tested good according to the material specification and purchase order requirements**

| STD / HEAT NO. | CHEMICAL COMPOSITION % (≤) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | C | Mn | P | S | Si | Cu | Ni | Cr | Mo | V | Nb | AL | N | Other |
| STD | 0.080 | 2.000 | 0.045 | 0.030 | 1.000 | - | 10.00-14.00 | 16.00-18.00 | 2.00-3.00 | - | - | - | 0.100 | - |
| | MECHANICAL PROPERTIES (≥) | | | | | | | | | | | | | |
| | T.S. MPa | Y.S. MPa | EL. (%) | R.A. (%) | HARD (HB)(≤) | IMPACT TEST (-°C) J | | | | | | | | |
| | 515 | 205 | 30 | 50 | - | - | | | | | | | | |
| ZC1298 | 0.044 | 0.810 | 0.039 | 0.002 | 0.360 | - | 10.070 | 16.380 | 2.050 | - | - | - | 0.070 | - |
| | 532 | 232 | 45 | 65 | 170 | - | - | - | | | | | | |
| HH1801 | 0.021 | 1.130 | 0.023 | 0.002 | 0.610 | - | 10.090 | 16.320 | 2.070 | - | - | - | 0.050 | - |
| | 535 | 234 | 49 | 59 | 172 | - | - | - | | | | | | |

We hereby certify that the material was manufactured, sampled, tested and inspected in accordance with the applicable material specifications and other requirements designated in the purchase order. The information contained in this report is true and correct to the best of our knowledge.

WITNESSED BY:

*DHV Industries, Inc.*
*3451 Pegasus Drive*
*Bakersfield, CA 93308 U.S.A*

QUALITY ASSURANCE MANAGER

Terry Gonsman
Quality Assurance Manager

**This certificate is in compliance with EN 10204 3.1.**

| DHV VALVE GROUP | MATERIAL TEST REPORT<br>MILL CERTIFICATE<br>ISO 9001:2015, API Q1: 9TH ED | REPORT NO. | M18120428 |
|---|---|---|---|
| | | DATE | Dec/4/2018 |
| | | PAGE | 6 of 7 |

| CUSTOMER | CUSTOMER P.O. | VALVE TYPE | SIZE/CLASS | FIGURE NUMBER |
|---|---|---|---|---|
| ALTEK Industrial | ST4148 | FLOATING BALL VALVE | 6"X4"RB 150LB | B2150F32 |

| MATERIAL | ASTM A193 B7M | MATERIAL ORIGIN | P.R.C. |
|---|---|---|---|

**HEAT TREATMENT**

| HEAT TREATMENT | TEMP.°C | TIME @ TEMP. °C (HR) | FURNACE | COOLING PROCESS | REMARK |
|---|---|---|---|---|---|
| Quench | 850 | 1h/25mm, ≥2h | Gas or Elec | Oil cooling to room temp. | |
| Temper | 680 | ≥4h | Gas or Elec | Air cooling to room temp. | |

**CHEMICAL AND MECHANICAL TEST REPORT**

**Have been tested good according to the material specification and purchase order requirements**

| STD | CHEMICAL COMPOSITION % ( ≤ ) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | C | Mn | P | S | Si | Cu | Ni | Cr | Mo | V | Nb | AL | N | OTHER |
| | 0.38-0.48 | 0.75-1.00 | 0.035 | 0.040 | 0.15-0.35 | - | - | 0.80-1.10 | 0.15-0.25 | - | - | - | - | - |
| | MECHANICAL PROPERTIES (≥) | | | | | | | | | | | | | |
| | T.S. MPa | Y.S. MPa | EL. (%) | R.A. (%) | HARD (HB)(≤) | IMPACT TEST (-°C) J | | | | | | | | |
| HEAT NO. | 690 | 550 | 18 | 50 | 235 | - | | | | | | | | |
| 507199622 | 0.410 | 0.860 | 0.018 | 0.015 | 0.280 | - | - | 0.940 | 0.150 | - | - | - | - | - |
| | 720 | 605 | 26 | 67 | 215 | - | - | - | | | | | | |

We hereby certify that the material was manufactured, sampled, tested and inspected in accordance with the applicable material specifications and other requirements designated in the purchase order. The information contained in this report is true and correct to the best of our knowledge.

WITNESSED BY:

DHV Industries, LTD INSURANCE

3451 Pegasus Drive

Bakersfield, CA 93308. U.S.A

Terry Gonsman

Quality Assurance Manager

**This certificate is in compliance with EN 10204 3.1.**

| DHV VALVE GROUP | MATERIAL TEST REPORT<br>MILL CERTIFICATE<br>ISO 9001:2015, API Q1: 9TH ED | REPORT NO. | M18120428 |
|---|---|---|---|
| | | DATE | Dec/4/2018 |
| | | PAGE | 7 of 7 |

| CUSTOMER | CUSTOMER P.O. | VALVE TYPE | SIZE/CLASS | FIGURE NUMBER |
|---|---|---|---|---|
| ALTEK Industrial | ST4148 | FLOATING BALL VALVE | 6"X4"RB 150LB | B2150F32 |

| MATERIAL | ASTM A194 2HM | MATERIAL ORIGIN | P.R.C. |
|---|---|---|---|

**HEAT TREATMENT**

| HEAT TREATMENT | TEMP.°C | TIME @ TEMP. °C (HR) | FURNACE | COOLING PROCESS | REMARK |
|---|---|---|---|---|---|
| Quench | 850 | 1h/25mm,≥2h | Gas or Elec | Oil cooling to room temp. | |
| Temper | 620 | ≥4h | Gas or Elec | Air cooling to room temp. | |

**CHEMICAL AND MECHANICAL TEST REPORT**

**Have been tested good according to the material specification and purchase order requirements**

| STD | CHEMICAL COMPOSITION % ( ≤ ) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | C | Mn | P | S | Si | Cu | Ni | Cr | Mo | V | Nb | AL | N | OTHER |
| | ≥0.40 | 1.000 | 0.040 | 0.050 | 0.400 | - | - | - | - | - | - | - | - | - |
| | MECHANICAL PROPERTIES (≥ ) | | | | | | | | | | | | | |
| | T.S. MPa | Y.S. MPa | EL. (%) | R.A. (%) | HARD (HB)(≤) | IMPACT TEST (-°C) J | | | | | | | | |
| HEAT NO. | - | - | - | - | 159-235 | - | | | | | | | | |
| 5111858 | 0.480 | 0.570 | 0.013 | 0.010 | 0.230 | - | - | - | - | - | - | - | - | - |
| | - | - | - | - | 195 | - | - | - | | | | | | |

We hereby certify that the material was manufactured, sampled, tested and inspected in accordance with the applicable material specifications and other requirements designated in the purchase order. The information contained in this report is true and correct to the best of our knowledge.

WITNESSED BY:

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QUALITY ASSURANCE MANAGER

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