

MATERIAL TEST RESULT

| | |
|--------------|-----------------------------------|
| MESSRS | UNIMECH ENGINEERING (M) SDN. BHD. |
| JOB NAME | |
| JOB No. | |
| P.O.No. | APO-2004-0010 |
| PRODUCT CODE | |

Certificate No.
1020330282-015-01-01-Z1

Date : 2020/06/04



| | | | |
|--------|----------------------------------|-------------|---------------|
| Figure | 10SJBF65 | Valve No. | |
| | Material ASTM A 395 Gr. 60-40-18 | Item No. | 15 |
| | Charge No. | Display No. | Name of Parts |
| 1 | 139 | | BODY |
| 2 | 13F | | BONNET |
| 3 | | | |
| 4 | | | |

CHEMICAL COMPOSITION %

| Element | C | Si | P | Mn | | | | | | | | | | | |
|---------|------|------|-------|------|--|--|--|--|--|--|--|--|--|--|--|
| Spec. | Min | *Max | Max | | | | | | | | | | | | |
| | 3.00 | 2.50 | 0.080 | | | | | | | | | | | | |
| 1 | 3.62 | 2.66 | 0.018 | 0.28 | | | | | | | | | | | |
| 2 | 3.61 | 2.60 | 0.019 | 0.29 | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |

| Element | | | | | | | | | | | | | | |
|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Spec. | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | |

TENSION TEST

IMPACT TEST

| Item | | | Tensile str. | Yield str. | Elongation | | | | |
|-------|--|--|--------------|------------|------------|--|--|--|--|
| Unit | | | MPa | MPa | % | | | | |
| Spec. | | | Min | Min | Min | | | | |
| 1 | | | 425 | 281 | 21 | | | | |
| 2 | | | 430 | 282 | 21 | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |

| Item | Hardness | Microstructure | | | | | | | |
|-------|----------|----------------|--|--|--|--|--|--|--|
| Unit | HB | % | | | | | | | |
| Spec. | 143 | Min | | | | | | | |
| | 187 | 90 | | | | | | | |
| 1 | 143 | 90 | | | | | | | |
| 2 | 143 | 90 | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |

HEAT TREATMENT °C

| Spec. | | |
|-------|--|--|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |

N:Normalizing A:Annealing T:Tempering Q:Quenching AC:Air Cooling
 WQ:Water Quenching OQ:Oil Quenching WC:Water Cooling FC:Furnace Cooling ST:Solution Treatment

REMARKS

* Every 0.01% P reduction enables 0.08% Si increase each within the maximum 2.75%.
 EN10204 Type 2.2

Reviewed by _____

R. Miyazawa

KITZ CORPORATION
QC Manager

We hereby certify that the articles listed above are satisfactory in accordance with the requirements of the standard and purchase order.