

# QUALITY CERTIFICATE

## NINGBO JINDING FASTENING PIECE CO., LTD

XI JINGTANG JIULONGHU NINGBO CHINA TEL: +86-574-86530122 FAX: +86-574-86530858

|                     |                                 |                  |               |
|---------------------|---------------------------------|------------------|---------------|
| Customer:           | MAPTCO FASTENERS(AUST)PTY LTD., | Date :           | 2020-07-21    |
| Product:            | HEX CAP SCREWS                  | Contract No:     | 20JDMFC088A   |
| Class:              | 8                               | Invoice No:      | 2007-69183314 |
| Size:               | 3/4-10X10                       | Lot No:          | 3651180027    |
| Marking:            | JDF six radius                  | Order No.        |               |
| Quantity:           | 0.600 mpcs                      | Part No.         | D309          |
| Country of Origin:  | CHINA                           | Production Date  | 2020-06-22    |
| Dimensions Of SPEC: | TEST FACILITY: Manufacturer     | Certificate No.: | 202007236860  |

| Inspection Items     | Standard     | Result      | Sample | Pass |
|----------------------|--------------|-------------|--------|------|
| Visual Appearance    | -----        | OK          | 30     | 30   |
| Body Diameter        | 0.741-0.750  | 0.742-0.744 | 20     | 20   |
| Thread               | Go           | 3A          | OK     | 20   |
|                      | No Go        | 2A          | OK     | 20   |
| Width Across Flats   | 1.125-1.100  | 1.106-1.111 | 20     | 20   |
| Width Across Corners | 1.299-1.254  | 1.268-1.270 | 20     | 20   |
| Major Diameter       | 0.735-0.746  | 0.739-0.740 | 20     | 20   |
| Head Height          | 0.483-0.455  | 0.463-0.468 | 20     | 20   |
| Total Length         | 9.820-10.000 | 9.941-9.953 | 20     | 20   |
| Thread Length        | min 2.000    | 2.126-2.126 | 20     | 20   |
| Key Engagement       | /            | /           | 20     | 20   |
| Head Diameter        | /            | /           | 20     | 20   |

| Mechanical Properties                          |                      | TEST FACILITY: Manufacturer |    |    |  |
|------------------------------------------------|----------------------|-----------------------------|----|----|--|
| CharacTeristics                                | Standard             | Result                      |    |    |  |
| Surface Hardness [30N]                         | max 58.6             | 54.0-54.5                   | 10 | 10 |  |
| Core Hardness [HRC]                            | 33-39                | 34.5-35.0                   | 10 | 10 |  |
| Wedge Strength [psi]                           | min 150000           | 158485-161242               | 8  | 8  |  |
| Yield Strength , 0.2% offset [psi]             | min 130000           | 145423-147600               | 8  | 8  |  |
| Elongation [%]                                 | min 12               | 15-16                       | 8  | 8  |  |
| Reduction Of area [%]                          | min 35               | 47.2-50.4                   | 8  | 8  |  |
| Proof Load [Ib]                                | 40100                | 40100                       | 4  | 4  |  |
| Impact test [Akv/J]                            |                      |                             |    |    |  |
| Decarburization                                | $N \geq 2/3H1$ HVO.3 | 349.20 364.81 363.29        | 6  | 6  |  |
| HV(2) $\geq$ HV(1) -30, HV(3) $\leq$ HV(1) +30 | G 0.0006max          |                             | 6  | 6  |  |

| CHEMICAL COMPOSITION(%) |           | TEST FACILITY: Supplier |      |      |       |           |      |      |      |    |   |
|-------------------------|-----------|-------------------------|------|------|-------|-----------|------|------|------|----|---|
| Heat No                 |           | C                       | Si   | Mn   | P     | S         | Cr   | Ni   | Cu   | Mb | B |
| XGML40CR-20             | E22001836 | 0.41                    | 0.19 | 0.74 | 0.018 | 0.004     | 1.00 | 0.01 | 0.01 |    |   |
| Thickness               | [UM]      | min 5                   |      |      |       | 14.4-16.7 |      | 20   |      | 20 |   |

Surface Coating: ZPCr3+ 5  $\mu$ m (coating test method: X ray according to ASTM B568-98(2014) standard test method for measurement of coating thickness by X-Ray spectrometry)

Thread Specification: ASME B1.1 2008, UNIFIED INCH SCREW THREADS(UN AND UNR THREAD FORM)

Sampling Dimension Specification: ASME B18.18-2017 inspection and quality assurance for high-volume machine assembly fasteners

Dimension Specification: ASME B18.2.1 2012, HEX CAP SCREWS

Sampling mechanical properties specification: ASTM F1470 2018 Standard Guide for Fastener Sampling for Specified Mechanical Properties and Performance Inspection

Mechanical Properties: SAE J429 2014, MECHANICAL AND MATERIAL REQUIREMENTS FOR EXTERNALLY THREADED FASTENERS

Surface Defect: ASTM F788/F788M-2013, SURFACE DISCONTINUITIES OF BOLTS, SCREWS, AND STUDS

Plating Specification: ASTM 1941 2016, Electrodeposited Coatings On Threaded Fasteners

The MTR shall include a statement that the products supplied are in compliance with all the requirements of the order.

THE REPORT IS ISSUED ACCORDING TO ISO16228 F3.1(EN10204 3.1)

Quality Control Supervisor

Quality Control Manager



沈健秋