



**GEM-YEAR TESTING LABORATORY
CERTIFICATE OF INSPECTION**

MANUFACTURER: GEM-YEAR INDUSTRIAL CO., LTD.
 ADDRESS: NO.8GEM-YEAR
 ROAD,E.D.Z.JIASHAN,ZHEJIANG,P.R.CHINA
 PURCHASER: MAPTCO FASTENERS (AUST) PTY LTD
 PO. NUMBER: MAP-2022M
 COMMODITY: ISO 4014 HEX HEAD BOLT HALF THREAD CL 10.9
 SIZE: M20-2.50X80
 LOT NO: 1B2060251
 SHIP QUANTITY: 1,600 PCS
 HEADMARKS: GENIUS SYMBOL & 10.9
 COUNTRY OF ORIGIN: CHINA

TEL: (0573) 84185001 (48Lines)
 FAX: (0573) 84184488 84184567
 DATE: 2020/09/28
 PACKING NO: GEM200824005
 INVOICE NO: GEM/MAP-200929MEL
 PART NO: A1131
 SAMPLING PLAN:
 ASME B18.18-2017/ASTM F1470-2018
 HEAT NO: C376148A
 MATERIAL: SCM435
 FINISH: H. T. TRIVALENT ZINC 5U HYDROGEN
 RELEASE

PERCENTAGE COMPOSITION OF CHEMISTRY: TEST FACILITY :S

| Chemistry | C% | Cr% | Mn% | Mo% | Ni% | P% | S% | Si% |
|------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Spec.:MIN. | 0.3300 | 0.9000 | 0.6000 | 0.1500 | | | | 0.1500 |
| MAX. | 0.3800 | 1.2000 | 0.8500 | 0.3000 | 0.2500 | 0.0250 | 0.0250 | 0.3500 |
| Test Value | 0.3600 | 0.9800 | 0.6300 | 0.1900 | 0.0200 | 0.0060 | 0.0010 | 0.2100 |

DIMENSIONAL INSPECTIONS: ACCORDING TO ISO4014-2011 TEST FACILITY : M

SAMPLED BY: XUJIAOJIAO

| INSPECTIONS ITEM | SAMPLE | TEST METHOD | REF | SPECIFIED | ACTUAL RESULT | ACC | REJ |
|-------------------------|--------|-------------|-----|--------------------|--------------------|-----|-----|
| HEIGHT | 4 PCS | JB/T 9151 | | 12.2900-12.7100 MM | 12.5200-12.5800 MM | 4 | 0 |
| WIDTH ACROSS FLATS | 4 PCS | JB/T 9151 | | 29.6700-30.0000 MM | 29.6800-29.7600 MM | 4 | 0 |
| NOMINAL LENGTH | 15 PCS | JB/T 9151 | | 79.4000-80.6000 MM | 79.6900-79.8300 MM | 15 | 0 |
| THREAD LENGTH | 15 PCS | JB/T 9151 | 46 | | 52.0400-52.3900 MM | 15 | 0 |
| SURFACE DISCONTINUITIES | 22 PCS | ISO6157.3 | | | PASSED | 22 | 0 |
| BODY DIAMETER | 4 PCS | JB/T 9151 | | 19.6700-20.0000 MM | 19.7000-19.7300 MM | 4 | 0 |
| WIDTH ACROSS CORNERS | 4 PCS | JB/T 9151 | | Min. 33.5300 MM | 33.7600-33.8000 MM | 4 | 0 |
| MAJOR DIAMETER | 4 PCS | JB/T 9151 | | 19.6300-19.9500 MM | 19.7200-19.8200 MM | 4 | 0 |
| THREAD | 15 PCS | JB/T 9151 | | 6h GO 6h NOGO | PASSED | 15 | 0 |

MECHANICAL PROPERTIES: ACCORDING TO ISO 898.1-2013 TEST FACILITY : M

SAMPLED BY: NIESUYING

| INSPECTIONS ITEM | SAMPLE | TEST METHOD | REF | SPECIFIED | ACTUAL RESULT | ACC | REJ |
|------------------|--------|-------------|-----|------------------|-------------------|-----|-----|
| CORE HARDNESS | 15 PCS | ISO898.1 | | 32-39 HRC | 35-37 HRC | 15 | 0 |
| SURFACE HARDNESS | 15 PCS | ASTM E384 | | Max. 390 HV | 372-382 HV | 15 | 0 |
| TENSILE STRENGTH | 4 PCS | ISO898.1 | | Min. 1,040 N/MM2 | 1,138-1,163 N/MM2 | 4 | 0 |

ALL TESTS ARE IN ACCORDANCE WITH THE METHODS PRESCRIBED IN THE APPLICABLE ASTM/SAE/ASME. SPECIFICATION. WE CERTIFY THAT THIS DATA IS A TRUE REPRESENTATION OF INFORMATION PROVIDED BY THE MATERIAL SUPPLIER AND OUR TESTING LABORATORY.

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

TYPE M: MANUFACTURER

TYPE S: SUPPLIER(STEEL MILL,PLATING SUB SUPPLIER,HEAT TREATMENT SUB SUPPLIER ETC.,)

WE CERTIFY THE PARTS ARE ROHS COMPLIANT.

SIGNATURE: