

F 568M 10.9.3 A

HIGH TENSILE

EXTER

F 568M covers chemical and mechanical requirement for nine property classes of carbon and alloy steel thread diameters. F 568M does not cover dimensional requirements for fasteners of any property class. For procurement purpose, it is mandatory that size, type, style, and any special dimensions of the product for the nine property classes are essentially identical with requirements given for these classes in ISO 898/1. Corrosion resistance and weathering characteristics comparable to those steels covered in Specifications C, D, E & F respectively.

Chemical Properties

| C | Mn | P | S | Si | Cr | Ni |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.31-0.42 | 0.86-1.24 | 0.045 Max | 0.055 Max | 0.13-0.37 | 0.42-0.68 | 0.22-0.48 |

Mechanical Properties

| Yield strength | Tensile strength | Elongation | Re |
|----------------|------------------|------------|----|
| Mpa | Mpa | % | |
| min | min | min | |
| 940 | 1040 | 9 | |

Proof Load Values, kN

| Nominal Product Diameter & Thread Pitch | | | | | | |
|---|----------|--------|-----------|-----------|------------|---------|
| | M5 X 0.8 | M6 X 1 | M8 X 1.25 | M10 X 1.5 | M12 X 1.75 | M14 X 2 |
| Method 1 | 11.8 | 16.7 | 30.4 | 48.1 | 70.0 | 95.5 |
| Method 2 | 13.3 | 18.9 | 34.4 | 54.5 | 79.2 | 108 |

| | | | | | |
|-----------|-----------|---------|---------|-----------|---------|
| M20 X 2.5 | M22 X 2.5 | M24 X 3 | M27 X 3 | M30 X 3.5 | M36 X 4 |
|-----------|-----------|---------|---------|-----------|---------|

| | | | | | |
|-----|-----|-----|-----|-----|-----|
| 203 | 251 | 293 | 381 | 466 | 678 |
| 230 | 285 | 332 | 431 | 527 | 763 |

| | | | | | |
|---------|-----------|---------|---------|---------|---------|
| M48 X 5 | M56 X 5.5 | M64 X 6 | M72 X 6 | M80 X 6 | M90 X 6 |
| 1220 | 1680 | 2220 | 2870 | 3600 | 4640 |
| 1380 | 1910 | 2520 | 3250 | 4080 | 5250 |

Heat Treatment

Quenched & Tempered @ 425°C

Equivalent Designation

| |
|-----------|
| UNS |
| EN number |
| EN Name |
| W.Nr. |
| SS |
| AFNOR |

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Steel externally threaded metric fasteners in nominal diameters 1.6mm to 48mm. When referencing this specification for fasteners, the grade and class must be additionally specified. Requirement for seven of the grades is for atmospheric corrosion resistance, where as other two classes have atmospheric corrosion resistance. Grades 10.9.3 have their classes are A, B,

| |
|-----------|
| Cu |
| 0.22-0.48 |

| Reduction | Hardness |
|------------------|-----------------|
| % | HRC |
| min | |
| 35 | 33-39 |

| |
|---------|
| M16 X 2 |
| 130 |
| 148 |

| |
|-----------|
| M42 X 4.5 |
|-----------|

| |
|------|
| 930 |
| 1050 |

| |
|----------|
| M100 X 6 |
| 5800 |
| 6570 |



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