



**MULTITEX FILTRATION
ENGINEERS LTD.**

TECHNICAL DELIVERY CONDITIONS

TDC No.MFEL /TDC/WX468/SR01/H/ Rev.0

Page 1 of 3

W.O. No. / ITEM NO.	: WX468 / Z-M53-001
CUSTOMER	: QCON / QP
INSPECTION AGENCY	: TPI / AI
PO NO	: PO No.A399AAMC/701/PO-2020-00344 Dated 19-Apr-20
PROJECT	:

Date Issued
30-May-2020

**ORDERING INFORMATION FOR FASTENERS
FASTNERS <= 64 MM**

- | | | |
|-----------|--|---|
| 1 | <u>ITEM</u> | : LOW ALLOY STEEL FASTENER |
| 2 | <u>APPLICATION</u> | : FOR CODE STAMPED PRESSURE VESSEL AS PER ASME Sec.VIII Div.1 Ed.2019 |
| 3 | <u>MATERIAL SPECIFICATION</u> | : SA-193 Gr B7M FOR STUDS AND SA-194 Gr 2HM FOR NUTS REF. SA-962 STANDARD(S).
OF ASME Sec.II PART A (EDITION : 2019)
FASTNERS SHALL BE ELECTROLESS NICKEL PLATED WITH MINIMUM COATING THICKNESS OF 75 MICRON (P > 10% AS PER ASTM B 733) |
| 4 | <u>FASTENER DIMENSIONS / SIZE</u> | : AS PER PURCHASE ORDER. |
| 5 | <u>DIMENSIONAL TOLERANCES</u> | : TOLERANCES ON NUTS SHALL BE AS PER ASME B18.2.2 Ed. 2015 |
| 6 | <u>FINISH</u> | : AS PER SPEC. REQUIREMENTS. |
| 7 | <u>QUANTITY</u> | : AS PER PURCHASE ORDER. |
| 8 | <u>MANUFACTURE</u> | : STEEL USED FOR STUDS AND NUTS SHALL BE AS PER SPEC. REQUIREMENTS
NUTS SHALL BE HEAVY HEX AS PER ASME B18.2.2 Ed. 2015
THREADS SHALL BE AS PER ASME B1.1 Ed. 2003 (R2018) CI.2A FOR STUDS AND CI.2B FOR NUTS

FASTENERS SHALL BE NEW. RECONDITIONING / REPAIR BY WELDING , OR BY ANY OTHER MEANS IS NOT PERMITTED. |
| 9 | <u>HEAT TREATMENT CONDITION</u> | : QUENCHED AND TEMPERED AS PER SPEC. |
| 10 | <u>CHEMICAL COMPOSITION</u> | : AS PER SA-193 Gr B7M FOR STUDS AND SA-194 Gr 2HM FOR NUTS
OF ASME Sec.II PART A (EDITION : 2019) |
| 11 | <u>IGC TEST</u> | : NOT APPLICABLE. |



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Page 2 of 3

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12 MECHANICAL PROPERTIES

: (a) AS PER SA-193 Gr B7M FOR STUDS AND SA-194 Gr 2HM FOR NUTS
AND AS PER SA-370

IMPACT TEST : (b) NOT APPLICABLE.

HARDNESS : (c) AS PER SPEC.



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Page 3 of 3

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13 IDENTIFICATION AND MARKING

: AS PER CL.20 OF SA-962 AND CL.15 AND CL.13 OF SA-193 FOR STUDS AND SA-194 FOR NUTS RESPECTIVELY.

14 TEST CERTIFICATES

: REQUIRED AS PER EN 10204 (ED.2004) 3.2 AND AS PER CL.19 OF SA-962 AND CL.14 AND CL.12 OF SA-193 FOR STUDS AND SA-194 FOR NUTS

RESPECTIVELY AND INCLUDING FOLLOWING SHALL BE FURNISHED.

- (a) MATERIAL TEST CERTIFICATES (MTC) WITH TEST REPORT OF CHEMICAL AND MECHANICAL PROPERTIES AS PER THE SPEC. AND THIS TDC.
- (b) FASTNER SIZE ,
STARTING PITCH , PITCH TYPE , NO. OF THREADS PER UNIT LENGTH ETC.
- (c) HEAT TREATMENT DETAILS.
- (d) YEAR / ADDENDA OF MATERIAL SPECIFICATION.

JSC
PREPARED BY

AKR
CHECKED AND APPROVED BY