

Dt. 30.01.19

# QUALITY ASSURANCE PLAN

## RIFLE 5.56 mm. INSAS.

### (INVESTMENT CASTING COMPONENTS)

| 1       | NOMENCLATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | HINGE COVER(I.C.)                                                                              |                  |                       |                                 |                       |                                 |   |      |     |     |       |     |   |      |     |      |       |     |   |       |     |      |      |      |   |     |     |      |      |      |   |     |     |      |      |      |   |      |     |      |      |      |   |         |     |      |      |      |   |     |     |      |      |      |  |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------|-----------------------|---------------------------------|-----------------------|---------------------------------|---|------|-----|-----|-------|-----|---|------|-----|------|-------|-----|---|-------|-----|------|------|------|---|-----|-----|------|------|------|---|-----|-----|------|------|------|---|------|-----|------|------|------|---|---------|-----|------|------|------|---|-----|-----|------|------|------|--|
| 2       | DRG. NO./D.S.CAT.NO.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | RFI.SK.: - 6097 <sup>*12</sup>                                                                 |                  |                       |                                 |                       |                                 |   |      |     |     |       |     |   |      |     |      |       |     |   |       |     |      |      |      |   |     |     |      |      |      |   |     |     |      |      |      |   |      |     |      |      |      |   |         |     |      |      |      |   |     |     |      |      |      |  |
| 3       | MATERIAL SPECIFICATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | B.S:3146 PT.I:1974, CLASS 8                                                                    |                  |                       |                                 |                       |                                 |   |      |     |     |       |     |   |      |     |      |       |     |   |       |     |      |      |      |   |     |     |      |      |      |   |     |     |      |      |      |   |      |     |      |      |      |   |         |     |      |      |      |   |     |     |      |      |      |  |
| 4       | CHEMICAL COMPOSITION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | AS PER SPECIFICATION/DRAWING.                                                                  |                  |                       |                                 |                       |                                 |   |      |     |     |       |     |   |      |     |      |       |     |   |       |     |      |      |      |   |     |     |      |      |      |   |     |     |      |      |      |   |      |     |      |      |      |   |         |     |      |      |      |   |     |     |      |      |      |  |
| 5       | PHYSICAL PROPERTIES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | AS PER SPECIFICATION/DRAWING.                                                                  |                  |                       |                                 |                       |                                 |   |      |     |     |       |     |   |      |     |      |       |     |   |       |     |      |      |      |   |     |     |      |      |      |   |     |     |      |      |      |   |      |     |      |      |      |   |         |     |      |      |      |   |     |     |      |      |      |  |
| 6       | THE FOLLOWING DOCUMENTS ARE TO BE VERIFIED/SUBMITTED.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                |                  |                       |                                 |                       |                                 |   |      |     |     |       |     |   |      |     |      |       |     |   |       |     |      |      |      |   |     |     |      |      |      |   |     |     |      |      |      |   |      |     |      |      |      |   |         |     |      |      |      |   |     |     |      |      |      |  |
|         | a) SUPPLY ORDER.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | f) CRACK DETECTION CERTIFICATE.                                                                |                  |                       |                                 |                       |                                 |   |      |     |     |       |     |   |      |     |      |       |     |   |       |     |      |      |      |   |     |     |      |      |      |   |     |     |      |      |      |   |      |     |      |      |      |   |         |     |      |      |      |   |     |     |      |      |      |  |
|         | b) MIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | g) RADIOGRAPHIC TEST CERTIFICATE.                                                              |                  |                       |                                 |                       |                                 |   |      |     |     |       |     |   |      |     |      |       |     |   |       |     |      |      |      |   |     |     |      |      |      |   |     |     |      |      |      |   |      |     |      |      |      |   |         |     |      |      |      |   |     |     |      |      |      |  |
|         | c) BATCH NO./HEAT NO.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | h) DECARBURISATION TEST CERTIFICATE                                                            |                  |                       |                                 |                       |                                 |   |      |     |     |       |     |   |      |     |      |       |     |   |       |     |      |      |      |   |     |     |      |      |      |   |     |     |      |      |      |   |      |     |      |      |      |   |         |     |      |      |      |   |     |     |      |      |      |  |
|         | d) CHEMICAL TEST CERTIFICATE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | i) PRE INSPECTION REPORT                                                                       |                  |                       |                                 |                       |                                 |   |      |     |     |       |     |   |      |     |      |       |     |   |       |     |      |      |      |   |     |     |      |      |      |   |     |     |      |      |      |   |      |     |      |      |      |   |         |     |      |      |      |   |     |     |      |      |      |  |
|         | e) MECHANICAL TEST CERTIFICATE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | j) BATCH SIZE.                                                                                 |                  |                       |                                 |                       |                                 |   |      |     |     |       |     |   |      |     |      |       |     |   |       |     |      |      |      |   |     |     |      |      |      |   |     |     |      |      |      |   |      |     |      |      |      |   |         |     |      |      |      |   |     |     |      |      |      |  |
| 7       | <b>VISUAL :-</b><br>SAMPLE SIZE AS PER GENERAL INSPECTION LEVEL-III & AQL-1.5 IS:2500 (PT.I):2000.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | CASTING SHOULD BE FREE FROM CRACKS, HOT TEARS, COLD SHUTS, BLOW HOLES, SHARP EDGES, BURRS ETC. |                  |                       |                                 |                       |                                 |   |      |     |     |       |     |   |      |     |      |       |     |   |       |     |      |      |      |   |     |     |      |      |      |   |     |     |      |      |      |   |      |     |      |      |      |   |         |     |      |      |      |   |     |     |      |      |      |  |
| 8       | DIMENSIONAL CHECKING, SAMPLE SIZE AS PER SPECIAL INSPECTION LEVEL S-4 OF IS:2500 (PT.I):2000.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                |                  |                       |                                 |                       |                                 |   |      |     |     |       |     |   |      |     |      |       |     |   |       |     |      |      |      |   |     |     |      |      |      |   |     |     |      |      |      |   |      |     |      |      |      |   |         |     |      |      |      |   |     |     |      |      |      |  |
|         | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">SL. NO.</th> <th style="width: 20%;">AUDIT POINTS</th> <th style="width: 15%;">DRG. ZONE</th> <th style="width: 20%;">GAUGE NO./METHOD</th> <th style="width: 20%;">CLASS OF DEFECT (DCL)</th> <th style="width: 20%;">ACCEPTANCE (AQL AS PER IS:2500)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>10.5</td> <td style="text-align: center;">E-8</td> <td style="text-align: center;">G.E</td> <td style="text-align: center;">MAJOR</td> <td style="text-align: center;">4.0</td> </tr> <tr> <td style="text-align: center;">2</td> <td>30.5</td> <td style="text-align: center;">D-8</td> <td style="text-align: center;">-DO-</td> <td style="text-align: center;">MINOR</td> <td style="text-align: center;">6.5</td> </tr> <tr> <td style="text-align: center;">3</td> <td>5.1 R</td> <td style="text-align: center;">D-8</td> <td style="text-align: center;">-DO-</td> <td style="text-align: center;">-DO-</td> <td style="text-align: center;">-DO-</td> </tr> <tr> <td style="text-align: center;">4</td> <td>4.5</td> <td style="text-align: center;">D-7</td> <td style="text-align: center;">-DO-</td> <td style="text-align: center;">-DO-</td> <td style="text-align: center;">-DO-</td> </tr> <tr> <td style="text-align: center;">5</td> <td>4.8</td> <td style="text-align: center;">E-7</td> <td style="text-align: center;">-DO-</td> <td style="text-align: center;">-DO-</td> <td style="text-align: center;">-DO-</td> </tr> <tr> <td style="text-align: center;">6</td> <td>16.5</td> <td style="text-align: center;">F-8</td> <td style="text-align: center;">-DO-</td> <td style="text-align: center;">-DO-</td> <td style="text-align: center;">-DO-</td> </tr> <tr> <td style="text-align: center;">7</td> <td>1.5X45°</td> <td style="text-align: center;">E-7</td> <td style="text-align: center;">-DO-</td> <td style="text-align: center;">-DO-</td> <td style="text-align: center;">-DO-</td> </tr> <tr> <td style="text-align: center;">8</td> <td>3 R</td> <td style="text-align: center;">E-8</td> <td style="text-align: center;">-DO-</td> <td style="text-align: center;">-DO-</td> <td style="text-align: center;">-DO-</td> </tr> </tbody> </table> | SL. NO.                                                                                        | AUDIT POINTS     | DRG. ZONE             | GAUGE NO./METHOD                | CLASS OF DEFECT (DCL) | ACCEPTANCE (AQL AS PER IS:2500) | 1 | 10.5 | E-8 | G.E | MAJOR | 4.0 | 2 | 30.5 | D-8 | -DO- | MINOR | 6.5 | 3 | 5.1 R | D-8 | -DO- | -DO- | -DO- | 4 | 4.5 | D-7 | -DO- | -DO- | -DO- | 5 | 4.8 | E-7 | -DO- | -DO- | -DO- | 6 | 16.5 | F-8 | -DO- | -DO- | -DO- | 7 | 1.5X45° | E-7 | -DO- | -DO- | -DO- | 8 | 3 R | E-8 | -DO- | -DO- | -DO- |  |
| SL. NO. | AUDIT POINTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | DRG. ZONE                                                                                      | GAUGE NO./METHOD | CLASS OF DEFECT (DCL) | ACCEPTANCE (AQL AS PER IS:2500) |                       |                                 |   |      |     |     |       |     |   |      |     |      |       |     |   |       |     |      |      |      |   |     |     |      |      |      |   |     |     |      |      |      |   |      |     |      |      |      |   |         |     |      |      |      |   |     |     |      |      |      |  |
| 1       | 10.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | E-8                                                                                            | G.E              | MAJOR                 | 4.0                             |                       |                                 |   |      |     |     |       |     |   |      |     |      |       |     |   |       |     |      |      |      |   |     |     |      |      |      |   |     |     |      |      |      |   |      |     |      |      |      |   |         |     |      |      |      |   |     |     |      |      |      |  |
| 2       | 30.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | D-8                                                                                            | -DO-             | MINOR                 | 6.5                             |                       |                                 |   |      |     |     |       |     |   |      |     |      |       |     |   |       |     |      |      |      |   |     |     |      |      |      |   |     |     |      |      |      |   |      |     |      |      |      |   |         |     |      |      |      |   |     |     |      |      |      |  |
| 3       | 5.1 R                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | D-8                                                                                            | -DO-             | -DO-                  | -DO-                            |                       |                                 |   |      |     |     |       |     |   |      |     |      |       |     |   |       |     |      |      |      |   |     |     |      |      |      |   |     |     |      |      |      |   |      |     |      |      |      |   |         |     |      |      |      |   |     |     |      |      |      |  |
| 4       | 4.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | D-7                                                                                            | -DO-             | -DO-                  | -DO-                            |                       |                                 |   |      |     |     |       |     |   |      |     |      |       |     |   |       |     |      |      |      |   |     |     |      |      |      |   |     |     |      |      |      |   |      |     |      |      |      |   |         |     |      |      |      |   |     |     |      |      |      |  |
| 5       | 4.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | E-7                                                                                            | -DO-             | -DO-                  | -DO-                            |                       |                                 |   |      |     |     |       |     |   |      |     |      |       |     |   |       |     |      |      |      |   |     |     |      |      |      |   |     |     |      |      |      |   |      |     |      |      |      |   |         |     |      |      |      |   |     |     |      |      |      |  |
| 6       | 16.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | F-8                                                                                            | -DO-             | -DO-                  | -DO-                            |                       |                                 |   |      |     |     |       |     |   |      |     |      |       |     |   |       |     |      |      |      |   |     |     |      |      |      |   |     |     |      |      |      |   |      |     |      |      |      |   |         |     |      |      |      |   |     |     |      |      |      |  |
| 7       | 1.5X45°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | E-7                                                                                            | -DO-             | -DO-                  | -DO-                            |                       |                                 |   |      |     |     |       |     |   |      |     |      |       |     |   |       |     |      |      |      |   |     |     |      |      |      |   |     |     |      |      |      |   |      |     |      |      |      |   |         |     |      |      |      |   |     |     |      |      |      |  |
| 8       | 3 R                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | E-8                                                                                            | -DO-             | -DO-                  | -DO-                            |                       |                                 |   |      |     |     |       |     |   |      |     |      |       |     |   |       |     |      |      |      |   |     |     |      |      |      |   |     |     |      |      |      |   |      |     |      |      |      |   |         |     |      |      |      |   |     |     |      |      |      |  |