

## Material Test Certificate according to EN 10204-2004 : 3.1

|            |   |        |   |             |                        |           |         |               |            |
|------------|---|--------|---|-------------|------------------------|-----------|---------|---------------|------------|
| Customer : | - |        |   | Material :  | ASTM A193 GR. B8S CL.1 |           |         | TC No. :      | S91/26-XX  |
| SWO No. :  | - | Date : | - | Bar Shape : | Round                  | Bar Size  | 20.0 mm | TC Date :     | 11.04.20XX |
| PO No. :   | - | Date : | - | RM TC No. : | -                      | Lot No. : | AKF-XX  | INV. No./Date | -          |

## Chemical Composition Results %

| Elements :  | C     | Mn         | P     | S        | Si           | Cr    | Ni   | Mo | N    | Sn | Cu | Al | B | Pb | Ca |
|-------------|-------|------------|-------|----------|--------------|-------|------|----|------|----|----|----|---|----|----|
| Min. :      | -     | 7.00       | -     | -        | 3.50         | 16.00 | 8.00 | -  | 0.08 | -  | -  | -  | - | -  | -  |
| Max. :      | 0.10  | 9.00       | 0.060 | 0.030    | 4.50         | 18.00 | 9.00 | -  | 0.18 | -  | -  | -  | - | -  | -  |
| Actual :    | 0.022 | 7.38       | 0.024 | 0.021    | 4.10         | 16.45 | 8.37 | -  | 0.14 | -  | -  | -  | - | -  | -  |
| Lab TC No.: | XXXX  | Lab Name : | XXXX  | Result : | Satisfactory |       |      |    |      |    |    |    |   |    |    |

## Heat Treatment Records

| Heat Treatment Process   | Hardening Temp. °C | Tempering Temp. °C | Solution Annealing Temp. °C |
|--------------------------|--------------------|--------------------|-----------------------------|
| Temp. °C Min. :          | -                  | -                  | -                           |
| Temp. °C Recorded :      | -                  | -                  | -                           |
| Soaking Time :           | -                  | -                  | -                           |
| Quenching Medium :       | -                  | -                  | -                           |
| Carbide Solution Treated |                    |                    |                             |

## Mechanical Testing Results

| Mechanical Properties |      | Tensile Strength (Mpa)     | Yeild Strength 0.2 % Offset (Mpa) | % Elongation (GL-50mm) | %Reduction Area | Hardness (HRC) |                   | Proof Load (Kn) |         |            |
|-----------------------|------|----------------------------|-----------------------------------|------------------------|-----------------|----------------|-------------------|-----------------|---------|------------|
| Specified             | Min. | 655                        | 345                               | 35                     | 55              | -              |                   | -               |         |            |
|                       | Max. | -                          | -                                 | -                      | -               | 28             |                   | -               |         |            |
| Actual Results:       |      | 731.60                     | 443.30                            | 47.12                  | 67.09           | 22, 25, 24 HRC |                   | -               |         |            |
| Impact Test Results   |      | Charpy V Notch Impact Test |                                   |                        |                 | AVG Value (J)  | Lateral Expansion |                 |         |            |
|                       |      | Specified Value (J)        | -                                 | -                      | -               | -              | Value 1           | Value 2         | Value 3 | Avg. Value |
|                       |      | Achieved Value (J)         | -                                 | -                      | -               | -              | -                 | -               | -       | -          |
| Lab TC No.:           | -    |                            | Lab Name :                        | -                      |                 | Result :       |                   | Satisfactory    |         |            |

## Item Details

| Po Sr. No. | Item Code | Drawing No./Rev. No. | Item Description                          | Length | Quantity  |
|------------|-----------|----------------------|-------------------------------------------|--------|-----------|
| 1          | -         | -                    | Stud Bolt M-20-2P, ASTM A193 GR. B8S CL.1 | 90 mm  | 10.00 NOS |
|            |           |                      |                                           |        |           |
|            |           |                      |                                           |        |           |

|                                                                             |
|-----------------------------------------------------------------------------|
| Remarks: -                                                                  |
| 01) Material is free from defects.                                          |
| 02) 100% visual inspection carried out in accordance with the requirements. |
| 03) Chemical analysis carried out in accordance with the requirements.      |
| 04) Mechanical properties tested in accordance with the requirements.       |
| 05) Heat treatment carried out in accordance with the requirements.         |
| 06) Impact testing carried out in accordance with the requirements.         |
| 07) All dimensions are within the tolerance.                                |
| 08) All test results are within the requirements of IS 9001:2015.           |

We confirm that above mentioned Items was Manufactured, Sampled, Tested and Inspected in accordance with the subjected Customer's Purchase Order and as applicable Drawings, Material Specifications, Codes & Standards and the results of the items have been determined to meet the users' requirements.

For Ananka Fasteners Pvt. Ltd.

For Client / TPI

## Material Test Certificate according to EN 10204-2004 : 3.1

|            |   |        |   |             |                         |           |         |               |            |
|------------|---|--------|---|-------------|-------------------------|-----------|---------|---------------|------------|
| Customer : | - |        |   | Material :  | ASTM A193 GR. B8SA CL.1 |           |         | TC No. :      | S92/26-XX  |
| SWO No. :  | - | Date : | - | Bar Shape : | Round                   | Bar Size  | 16.0 mm | TC Date :     | 11.05.20XX |
| PO No. :   | - | Date : | - | RM TC No. : | -                       | Lot No. : | AKF-XX  | INV. No./Date | -          |

## Chemical Composition Results %

| Elements :  | C     | Mn         | P     | S        | Si           | Cr    | Ni   | Mo | N    | Sn | Cu | Al | B | Pb | Ca |
|-------------|-------|------------|-------|----------|--------------|-------|------|----|------|----|----|----|---|----|----|
| Min. :      | -     | 7.00       | -     | -        | 3.50         | 16.00 | 8.00 | -  | 0.08 | -  | -  | -  | - | -  | -  |
| Max. :      | 0.10  | 9.00       | 0.060 | 0.030    | 4.50         | 18.00 | 9.00 | -  | 0.18 | -  | -  | -  | - | -  | -  |
| Actual :    | 0.019 | 7.63       | 0.022 | 0.006    | 4.04         | 17.68 | 8.75 | -  | 0.12 | -  | -  | -  | - | -  | -  |
| Lab TC No.: | XXXX  | Lab Name : | XXXX  | Result : | Satisfactory |       |      |    |      |    |    |    |   |    |    |

## Heat Treatment Records

| Heat Treatment Process   | Hardening Temp. °C | Tempering Temp. °C | Solution Annealing Temp. °C |
|--------------------------|--------------------|--------------------|-----------------------------|
| Temp. °C Min. :          | -                  | -                  | -                           |
| Temp. °C Recorded :      | -                  | -                  | -                           |
| Soaking Time :           | -                  | -                  | -                           |
| Quenching Medium :       | -                  | -                  | -                           |
| Carbide Solution Treated |                    |                    |                             |

## Mechanical Testing Results

| Mechanical Properties |      | Tensile Strength (Mpa)     | Yeild Strength 0.2 % Offset (Mpa) |   | % Elongation (GL-50mm) | %Reduction Area | Hardness (HRC) |  | Proof Load (Kn)   |         |            |
|-----------------------|------|----------------------------|-----------------------------------|---|------------------------|-----------------|----------------|--|-------------------|---------|------------|
| Specified             | Min. | 655                        | 345                               |   | 35                     | 55              | -              |  | -                 |         |            |
|                       | Max. | -                          | -                                 |   | -                      | -               | 28 HRC         |  | -                 |         |            |
| Actual Results:       |      | 768.47                     | 452.12                            |   | 48.34                  | 68.12           | 23, 24, 25     |  | -                 |         |            |
| Impact Test Results   |      | Charpy V Notch Impact Test |                                   |   |                        |                 | AVG Value (J)  |  | Lateral Expansion |         |            |
|                       |      | Specified Value (J)        | -                                 | - | -                      | -               | Value 1        |  | Value 2           | Value 3 | Avg. Value |
|                       |      | Achieved Value (J)         | -                                 | - | -                      | -               | -              |  | -                 | -       | -          |
| Lab TC No.:           | -    |                            | Lab Name :                        |   | -                      |                 | Result :       |  | Satisfactory      |         |            |

## Item Details

| Po Sr. No. | Item Code | Drawing No./Rev. No. | Item Description                          | Length | Quantity  |
|------------|-----------|----------------------|-------------------------------------------|--------|-----------|
| 1          | -         | -                    | Stud Bolt M16-2P, ASTM A193 GR. B8SA CL.1 | 95 mm  | 10.00 NOS |
|            |           |                      |                                           |        |           |
|            |           |                      |                                           |        |           |

|                                                                                 |
|---------------------------------------------------------------------------------|
| Remarks: -                                                                      |
| 01) Material is free from defects.                                              |
| 02) 100% visual inspection carried out in accordance with EN 10204-2004.        |
| 03) Chemical, Mechanical & Physical properties tested at room temperature 20°C. |
| 04) Material fully complies with the requirements for the specified grade.      |
| 05) No weld repair is required.                                                 |
| 06) All dimensions are within the tolerance.                                    |
| 07) All components are marked as per requirement.                               |
| 08) All components are marked as per requirement.                               |

We confirm that above mentioned Items was Manufactured, Sampled, Tested and Inspected in accordance with the subjected Customer's Purchase Order and as applicable Drawings, Material Specifications, Codes & Standards and the results of the items have been determined to meet the users' requirements.

For Ananka Fasteners Pvt. Ltd.

For Client / TPI