

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

|            |   |        |   |             |                          |           |         |               |            |
|------------|---|--------|---|-------------|--------------------------|-----------|---------|---------------|------------|
| Customer : | - |        |   | Material :  | ASTM A193 GR. B8CLN CL.1 |           |         | TC No. :      | S80/26-XX  |
| SWO No. :  | - | Date : | - | Bar Shape : | Round                    | Bar Size  | 12.0 mm | TC Date :     | 27.05.20XX |
| 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. :      | 0.005 | -          | -     | -        | -            | 17.00 | 9.00  | -  | 0.06 | -  | -  | -  | - | -  | -  |
| Max. :      | 0.020 | 2.00       | 0.045 | 0.030    | 1.00         | 19.00 | 13.00 | -  | 0.10 | -  | -  | -  | - | -  | -  |
| Actual :    | 0.010 | 1.54       | 0.026 | 0.014    | 0.48         | 18.60 | 12.36 | -  | 0.08 | -  | -  | -  | - | -  | -  |
| 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 (HRB) |  | Proof Load (Kn)   |         |            |
|-----------------------|------|----------------------------|-----------------------------------|---|------------------------|-----------------|----------------|--|-------------------|---------|------------|
| Specified             | Min. | 515                        | 205                               |   | 30                     | 50              | -              |  | -                 |         |            |
|                       | Max. | -                          | -                                 |   | -                      | -               | 96             |  | -                 |         |            |
| Actual Results:       |      | 621.36                     | 326.08                            |   | 47.15                  | 69.52           | 87, 91, 93     |  | -                 |         |            |
| 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 M12-1.75P, ASTM A193 GR. B8CLN CL.1 | 120 mm | 30.00 NOS |
|            |           |                      |                                               |        |           |
|            |           |                      |                                               |        |           |

|                                                                             |
|-----------------------------------------------------------------------------|
| Remarks: -                                                                  |
| 01) Material is free from defects.                                          |
| 02) 100% visual inspection carried out and found satisfactory.              |
| 03) Chemical Analysis carried out and found satisfactory.                   |
| 04) Mechanical Properties tested and found satisfactory.                    |
| 05) Heat treatment carried out as per requirements found satisfactory.      |
| 06) Impact testing carried out as per requirements found satisfactory.      |
| 07) All dimensions are within tolerance.                                    |
| 08) Above mentioned items are as per requirement of TDS, No. 02 applicable. |

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. B8CLNA CL.1A |           |         | TC No. :      | S81/26-XX  |
| SWO No. :  | - | Date : | - | Bar Shape : | Round                      | Bar Size  | 16.0 mm | TC Date :     | 28.04.20XX |
| 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. :      | 0.005 | -          | -     | -        | -            | 17.00 | 9.00  | -  | 0.06 | -  | -  | -  | - | -  | -  |
| Max. :      | 0.020 | 2.00       | 0.045 | 0.030    | 1.00         | 19.00 | 13.00 | -  | 0.10 | -  | -  | -  | - | -  | -  |
| Actual :    | 0.009 | 1.46       | 0.007 | 0.008    | 0.77         | 18.64 | 11.85 | -  | 0.09 | -  | -  | -  | - | -  | -  |
| 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 (HRB) |  | Proof Load (Kn)   |         |            |
|-----------------------|------|----------------------------|-----------------------------------|---|------------------------|-----------------|----------------|--|-------------------|---------|------------|
| Specified             | Min. | 515                        | 205                               |   | 30                     | 50              | -              |  | -                 |         |            |
|                       | Max. | -                          | -                                 |   | -                      | -               | 90             |  | -                 |         |            |
| Actual Results:       |      | 623.00                     | 307.26                            |   | 46.47                  | 59.36           | 83, 86, 87     |  | -                 |         |            |
| 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. B8CLNA CL.1A | 100 mm | 50.00 NOS |
|            |           |                      |                                              |        |           |
|            |           |                      |                                              |        |           |

|                                                                          |
|--------------------------------------------------------------------------|
| Remarks: -                                                               |
| 01) Material is free from defects.                                       |
| 02) 100% visual inspection carried out in accordance with EN 10204-2004. |
| 03) Chemical Analysis carried out in accordance with EN 10204-2004.      |
| 04) Mechanical Properties tested in accordance with EN 10204-2004.       |
| 05) Heat treatment carried out in accordance with EN 10204-2004.         |
| 06) Impact testing carried out in accordance with EN 10204-2004.         |
| 07) All dimensions are within the tolerance.                             |
| 08) Above mentioned items are in accordance with EN 10204-2004.          |

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