## KRONE Submission Levels / Initial Sample Test Report

All documents must be sent to wek.spelle@krone.de before delivery.

| ommodities  | Weldments (Test Category A,B,C) | er / edge pa | and millec | Cast components<br>Forgings | Gearboxes | Gear parts | components Bevel gears /<br>l gear sets | omponents Spur gears etc. | V-belt pulleys and rollers | Hydraulic components | Hydraulic piplines | Electric | Cables | Belts | Tires | Chains | s | mplete a | GFK and CFK parts<br>Plastic parts | Ibled systems and machines | Cabins | Norm- / Catalogue parts | cooling water pipes | Prototypes order of 15 | Change of 35 order<br>All other not listed parts |
|---|---------------------------------|--------------|------------|-----------------------------|-----------|------------|---|---------------------------|----------------------------|----------------------|--------------------|----------|--------|-------|-------|--------|---|----------|------------------------------------|----------------------------|--------|-------------------------|---------------------|------------------------|--|
| No. Requirement   | Weldi                           |              | -          |                             |           |            | ear c                                   | ear c                     | >                          | -                    |                    |          |        |       |       |        |   | â        |                                    | Issem                      |        | N                       |                     | -                      | A  |
| 1     Initial sample inspection report / Cover Sheet     https://landmaschinen.krone.de/english/services/purchasing/purchasing/downloads  | ABC                             | x            | x          | x x                         | x         | x          |   | 6                         | x                          | x                    | x                  | x        | x      | х     | x     | x      | x | x        | x x                                | X                          | x      | х                       | x                   |                        | x x  |
| 2 Complete dimensional measurement results with assignment (drop stamps) of at least 3 parts  |                                 |              |            |                             |           | x          | x                                       | х                         |                            |                      |                    |          |        |       |       |        |   |          |                                    |                            |        |                         |                     |                        |  |
| 3 Complete dimensional measurement results with assignment (drop stamps)  | ABC                             |              | х          | x x                         |           |            |   |                           |                            |                      | х                  |          | х      | х     |       |        |   |          | x x                                | Х                          |        |                         | х                   | -                      |  |
| 4 Complete dimensional measurement results of the change with assignment (dropstamps)   |                                 |              |            |                             |           |            | х                                       | х                         |                            |                      |                    |          |        |       |       | х      | х |          |                                    | х                          |        |                         |                     | -                      | x x  |
| 5 Complete dimensional measurement results documented on the drawing  |                                 |              |            |                             |           |            |   |                           |                            |                      |                    |          |        |       |       |        |   |          |                                    |                            |        |                         | )                   | х                      |  |
| Vollständige dimensionale Messergebnisse auf Baugruppen und Einzelteilebene     6   - Schweißnähte     - Werkstoff bestätigen   |                                 |              |            |                             |           |            |   |                           |                            |                      |                    |          |        |       |       |        |   |          |                                    | x                          |        |                         |                     |                        |  |
| 7 Proof of securing special features (detailed coordination of features according to drawing / Construction & Development by means of MKL)  |                                 |              |            | * *                         |           | S          | х                                       | х                         |                            |                      |                    |          |        |       |       |        | х |          |                                    | х                          |        |                         |                     |                        |  |
| 8 Generation of a complete measurement report / gear protocol (incl. the pitch and concentricity deviation generated on a gear or coordinate measuring machine in accordance with the applicable standards and regulations.   |                                 |              |            | s s                         |           |            | х                                       | х                         |                            |                      |                    |          |        |       |       |        |   |          |                                    | s                          |        |                         |                     |                        |  |
| 9 Document welds for completeness   | ABC                             |              | х          |                             |           |            |   |                           | х                          | х                    |                    |          |        |       |       |        |   |          |                                    |                            | х      |                         | x x                 | x                      | х  |
| 10   Check surface / cleanliness / visible surface *  | ABC                             |              | х          | x x                         |           |            | х                                       | х                         |                            | х                    |                    |          |        |       |       |        |   |          |                                    | х                          | х      |                         | х                   |                        | х  |
| 11 Approved design changes / deviation permit   | ABC                             | х            | х          | x x                         | x         | x          | х                                       | x                         | х                          | х                    | х                  | х        | х      | х     | х     | х      | х | X        | x x                                | Х                          | х      |                         | )                   | x                      | х  |
| 12 Confirm material   | ABC                             |              | х          | х                           |           | х          | х                                       | х                         | х                          | х                    | х                  |          |        |       |       | х      | х |          | х                                  |                            | х      |                         | X X                 | X                      | х  |
| 13 Confirm pore class   |                                 |              |            | x x                         |           |            |   |                           |                            |                      |                    |          |        |       |       |        |   |          |                                    |                            |        |                         |                     |                        |  |
| Hardness test according to the drawing specifications and valid standards and regulations. Documentation of the measurement and test results by means of a<br>meaningful measurement or test report. (Hardness test on the component or by testing a representative sample in accordance with the applicable standards and<br>regulations).<br>(Testing of the CHD must be carried out at 3 test points according to the specifications of the drawing documents) |                                 |              |            | x x                         |           | x          | x                                       | x                         |                            |                      |                    |          |        |       |       | x      | x |          |                                    |                            |        |                         |                     |                        |  |
| Load pattern test (bevel gears / bevel gear sets) by means of single flank rolling test. (Verification by means of photo documentation of the load-bearing pattern on the tested component).  | (                               |              |            |                             |           | x          | x                                       |                           |                            |                      |                    |          |        |       |       |        |   |          |                                    | s                          |        |                         |                     |                        |  |
| 16 Radiographic testing and cuts  | +                               |              |            | s s                         | +         |            |   |                           |                            |                      |                    |          |        |       |       |        |   |          |                                    |                            | + +    |                         |                     |                        |  |
| 17 Marking of the 3 parts with assignment of the measurement reports  | +                               |              |            |                             |           | x          | x                                       | x                         |                            |                      |                    |          |        |       |       |        |   |          |                                    |                            |        |                         |                     | _                      |  |
| 18 Series device (hardening quette ; hardening furnaces ; tempering furnaces - detailed tuning by means of MKL-Z)   | ABC                             |              | x          |                             |           |            | x                                       |                           |                            | х                    |                    |          |        |       |       |        |   |          |                                    |                            | x      |                         | x                   | _                      | x  |
| 19 Prototype device / for welding assemblies with an annual requirement of less than 10 parts   | AB                              |              |            |                             |           |            |   |                           | x                          |                      |                    |          |        |       |       |        |   |          |                                    |                            | x      |                         |                     | x                      |  |
| 20 Manufacturing flow charts  | A                               |              | x          |                             | x         | :          | x                                       | x                         |                            |                      |                    | x        |        |       |       |        | x |          |                                    | x                          | x      |                         | x                   |                        |  |
| 21 Checklists for assembled systems / functional test / Inspection Plan / Control Plan  | A                               |              |            |                             | *         |            | x                                       | x                         |                            |                      |                    |          |        |       |       |        | * |          |                                    | x                          | *      |                         | x                   | _                      |  |
| 22 Cast form (only for castings)  | A                               |              |            | x                           |           | -          |   |                           |                            |                      |                    |          |        |       |       |        |   |          |                                    |                            |        |                         |                     | _                      |  |
| 23 KWN standards respected (according to drawing requirements)  | A                               |              | x          |                             | x         | :          | x                                       | x                         |                            | x                    | x                  | s        |        |       |       |        |   |          |                                    | x                          |        |                         |                     |                        |  |
| 24 Test results from functional testing, reliability, performance test  | *                               |              | *          |                             | x         |            | x                                       | x                         |                            | s                    |                    | s        |        | s     |       |        |   |          |                                    | s                          | x      |                         |                     |                        |  |
| 25 Process Capability   | *                               |              |            |                             |           |            | s                                       | S                         |                            | s                    |                    |          |        |       |       |        |   |          |                                    | *                          | +      |                         |                     | +                      |  |
| 26 Make micrographs   | *                               |              |            |                             |           |            |   |                           |                            |                      |                    |          | s      |       |       |        |   |          |                                    |                            |        |                         |                     |                        |  |
| 27 Material certificate according to 3.1  | *                               |              |            |                             |           |            | x                                       | x                         |                            |                      |                    |          |        |       |       |        |   |          |                                    | x                          |        |                         |                     |                        |  |
| 28 Resistant with a resistance / pressure test / contact pattern  | t                               |              | *          |                             | *         | x          | x                                       | x                         |                            | s                    | s                  |          |        |       |       |        |   |          |                                    | s                          |        |                         | х                   |                        |  |
| 29 Balancing results  | s                               |              |            |                             |           |            |   |                           |                            |                      |                    |          |        |       | s     |        |   |          |                                    | s                          |        |                         |                     |                        |  |
| 30 Work Samples   | t                               |              |            |                             |           |            |   |                           |                            |                      |                    |          |        |       |       |        |   |          |                                    | *                          |        |                         |                     |                        |  |
| 31 Oil cleanliness measurement according to the drawing   |                                 |              |            |                             | *         |            |   |                           |                            | *                    | *                  |          |        |       |       |        |   |          |                                    | *                          |        |                         |                     |                        |  |
| 32 Disassembled initial sample including sampling down to the component level   |                                 |              |            |                             | *         |            |   |                           |                            |                      |                    |          |        |       |       |        |   |          |                                    |                            |        |                         |                     |                        |  |
| 33 Parts list including completeness check  | t                               |              |            |                             | x         |            |   |                           |                            |                      |                    | s        |        |       |       |        |   |          |                                    | x                          | x      |                         |                     |                        |  |
| 34 Drop test  | -+                              |              |            |                             |           |            |   |                           |                            |                      |                    | s        |        |       |       |        |   |          |                                    |                            |        |                         |                     | $\neg$                 |  |
| 35 Environmental tests (EMC, ESD, tightness)  | t                               |              |            |                             |           |            |   |                           |                            |                      |                    | s        |        |       |       |        |   |          |                                    |                            |        |                         |                     | $\top$                 |  |
| 36 Evidence of electronic data acquisition for the component  | †                               |              |            |                             |           |            | x                                       | x                         |                            |                      |                    | s        |        |       |       |        |   |          |                                    | s                          |        |                         |                     | $\neg$                 |  |
| Proof of a grinding burn test on ground components in accordance with the applicable standards and regulations (Chemical and physical test methods such as nital etching, Barkhausen noise, surface crack testing).   |                                 |              |            |                             |           |            |   | x                         |                            |                      |                    | s        |        |       |       |        |   |          |                                    |                            |        |                         |                     |                        |  |
| Testing of spline shaft and spline groove profiles by means of spline plug gauge / spline ring gauge according to DIN in accordance with the drawing specifications.<br>(Production releases by means of single value tests, e.g. measuring ball dimensions, require coordination).<br>(Detailed coordination of tool / gauge procurement by means of MKL-Z).   | i T                             |              |            |                             |           |            | x                                       | x                         |                            |                      |                    |          | Ī      |       |       | Ī      |   |          |                                    |                            |        |                         |                     |                        |  |

Legend: X documents must be submitted with the Initial Sample | \* If necessary and in consultation with the Supply Chain Manager(A Components) | S If specified

Info: If you have any questions, please contact your Supply Chain Manager (QM). Depending on the complexity, a sampling planning discussion should also be considered.



## Change history:

| Status     | Revision | Commodities                                   | Requirement- No.      |  |  |  |  |
|------------|----------|---|-----------------------|--|--|--|--|
| 27.08.2021 | 1        | Gear components Bevel gears / Bevel gear sets | 6,7,13,14,17,20,21,39 |  |  |  |  |
|            |          | Gear components Spur gears etc.               | 6,7,13,20,21,38,39    |  |  |  |  |

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