

Production Process Capability and SPC

With reference to the Critical Parameters specified in the Technical Documentation and/or communicated by Indesit Company during the Contract Product's qualification phase, the Supplier shall guarantee that the Production Process capability (Cp and Cpk indexes) is constantly above the threshold value specified by Indesit Company and indicated in the Technical Documentation throughout the validity of the Supply Agreement.

Should the Indesit Company Technical Documentation not specify any Capability index target, it is understood that the Cp and Cpk indexes must be ≥ 1.33 .

The process capability must be determined and maintained according to the following operative rules:

1. During the Indesit Company initial qualification of the Supplier's new and / or modified Production Process, it is essential for the Supplier to produce a meaningful number of pieces using the final equipment, thus proving the process capability.
2. If the Process Qualification takes place when the Supplier manufactures the Pilot Lot, the Cmk index must be determined to qualify the process. The Cmk index should be ≥ 1.67 to guarantee Cpk ≥ 1.33 in mass production. At least 50 consecutive pieces must be collected in the following ideal process conditions, i.e.:
 - the machine is running in ideal maintenance and adjustment conditions;
 - the process method is the one specified in the Supplier's final technological cycle;
 - the measurement equipment complies with the requirements and is well calibrated;
 - the cycles and execution times are correct;
 - the environmental conditions are known and stable;
 - the characteristics of the process elements (material, structure, form, etc...) are known and within tolerance.
3. If the Process Qualification takes place in production, the Cpk index must be determined. The Cpk value should be ≥ 1.33 to guarantee the process qualification. At least 125 pieces must be collected over five production days and in any work shift.
4. The Cmk and Cpk indexes must be determined as specified in the UNI 10993 or in the relevant ISO norm.

Following the Process Qualification phase, the Supplier must guarantee a steady Process capability, with special reference to the Critical Parameters according to the following operative rules:

- 1) monthly measurement of Cpk;

- 2) maintenance of control charts for variables set and managed in agreement with the UNI 4728 or the relevant ISO norm;
- 3) evidence of the problems that may have led to $Cpk < 1.33$.

Upon request of Indesit Company, the Supplier shall give evidence of compliance with the set Capability requirements by sending the results of the measurements and / or the results of the measurements carried out under the supervision of the Indesit Company staff.

In case of non-compliance with the requested Capability value, the Supplier shall implement additional controls, as requested by Indesit Company, and bear the relevant costs, till the requested Capability value is achieved.

As for Critical Product Parameters 100% controlled by means of an automatic test with objective measurement, the Supplier is not requested to determine the monthly Cpk or maintain control charts. For a measurement to be “objective” the measurement and the reject must be automatic.

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