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AMENDMENT 1
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Statistical methods in process management — Capability and performance —

Part 7: Capability of measurement processes

AMENDMENT 1

Méthodes statistiques dans la gestion de processus — Aptitude et performance —

Partie 7: Aptitude des processus de mesure

AMENDEMENT 1

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Part 7: Capability of measurement processes

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6.2.3.3

Replace the last row in Table 6 by the following:

		$u_{TA} = \lvert T - 20\,°C \rvert \cdot u_\alpha \cdot l$ where T is the average temperature during the measurement; u_α is the uncertainty on the coefficient of expansion; l is the observed value for length measurement.

6.2.3.6.3

Replace the first formula by the following:

$$u_{TA} = \lvert T - 20\,°C \rvert \cdot u_\alpha \cdot l$$

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9.2

Replace the fourth and fifth paragraph by the following:

The capability of a measurement system can be expressed as a capability index C_{MS}.

$$C_{MS} = C_{MS_{min}} \cdot Q_{MS_{min}} \cdot \frac{(U-L)}{2 \cdot k \cdot u_{MS}} = \frac{4}{3} \cdot 0{,}15 \cdot \frac{(U-L)}{2 \cdot k \cdot u_{MS}} = 0{,}2 \cdot \frac{(U-L)}{2 \cdot k \cdot u_{MS}}$$

The capability of a measurement process can be expressed as a capability index C_{MP}.

$$C_{MP} = C_{MP_{min}} \cdot Q_{MP_{min}} \cdot \frac{(U-L)}{2 \cdot k \cdot u_{MP}} = \frac{4}{3} \cdot 0{,}30 \cdot \frac{(U-L)}{2 \cdot k \cdot u_{MP}} = 0{,}4 \cdot \frac{(U-L)}{2 \cdot k \cdot u_{MP}}$$

9.3

Replace the fifth and sixth paragraph up to before the formula with the following:

There are several ways to estimate the manufacturing process dispersion Δ in the following priority:

a) manufacturing process dispersion determined according to ISO 22514-1 and ISO 22514-2

b) manufacturing process dispersion calculated from the experiment described in clause 6.2.3.2

c) manufacturing process spread and process location estimated from historical data of similar processes

See details in the following paragraphs.

The manufacturing process dispersion is preferably determined according to ISO 22514-1 and ISO 22514-2 using a minimum sample size of 100.

Replace the two paragraphs after Figure 5 by the following:

If an upper one-sided specification limit is given, the capability indices and performance ratios are calculated as:

$$C_{MS} = 0{,}2 \cdot \frac{C_p \cdot \Delta_U}{k \cdot u_{MS}} \quad C_{MP} = 0{,}4 \cdot \frac{C_p \cdot \Delta_U}{k \cdot u_{MP}}$$

$$Q_{MS} = \frac{k \cdot u_{MS}}{C_p \cdot \Delta_U} \quad Q_{MP} = \frac{k \cdot u_{MP}}{C_p \cdot \Delta_U}$$

If a lower one-sided specification limit is given, the capability indices and performance ratios are calculated as

$$C_{MS} = 0{,}2 \cdot \frac{C_p \cdot \Delta_L}{k \cdot u_{MS}} \quad C_{MP} = 0{,}4 \cdot \frac{C_p \cdot \Delta_L}{k \cdot u_{MP}}$$

$$Q_{MS} = \frac{k \cdot u_{MS}}{C_p \cdot \Delta_L} \quad Q_{MP} = \frac{k \cdot u_{MP}}{C_p \cdot \Delta_L}$$

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