

Chapter 9

Capability According to the German Association of the Automobile Industry (VDA 6.1)

Since, in practice, we must meet various requirements from different customers to evaluate capabilities, here is another, alternative way [53], which is in principle no different from others already described in this monograph.

The procedure for the calculation of c_p , c_{pk} , c_m , c_{mk} , P_p , P_{pk} and c_g , c_{gk} are also similar, requiring the changing of the criteria of evaluation as shown in Table 9.1, unless the customer requests otherwise.

Table 9.1 Capability according to VDA

Kind of capability	Method of indication	Size of selection	Required criterion
Short term capability (capability of manufacturing facility)	c_m	50–100 products, 1 person, 1 machine (we do not want to manifest variability, so it involves 1 person)	$c_m \geq 1.67$
	c_{mk}		$c_{mk} \geq 1.33$
Preliminary capability (used in the verification series, new machines and machines after GR)	P_p	125 products suffices, 25 selections in 5 pcs (or 25 selections in 3 pcs, i.e., 75 pcs) 1 person, 1 machine	$P_p \geq 1.67$
	P_{pk}		$P_{pk} \geq 1.67$
Long-term capability (capability of processes) e.g., 25 selections in	c_p	20 working days 125 products suffice, 5 pcs (or 25 selections in 3 pcs, i.e., 75 pcs)	$c_p \geq 1.33$
	c_{pk}		$c_{pk} \geq 1.33$
Capability of gauges	c_g	50–100 products, 1 person, 1 gauger	$c_g \geq 1.6$
	c_{gk}		$c_{gk} \geq 1.6$