

Tab 3.2: Category requirements in accordance with EN ISO 13849-1 Table 10

Cat.	Summary of requirements	System response	Principals used to achieve safety	MTTF _D of each channel	DC _{avg}	CCF
B	SRP/CS and/or their protective equipment, as well as their components, shall be designed, constructed, selected, assembled and combined in accordance with relevant standards so that they can withstand the expected influence. Basic safety principles shall be used.	The occurrence of a fault can lead to the loss of the safety function.	Mainly characterized by selection of components.	Low to medium	None	Not relevant
1	Requirements of B shall apply. Well-tried components and well-tried safety principles shall be used.	The occurrence of a fault can lead to the loss of the safety function but the probability of occurrence is lower than for category B.	Mainly characterized by selection of components.	High	None	Not relevant
2	Requirements of B and the use of well-tried safety principles shall apply. Safety function shall be checked at suitable intervals by the machine control system (see 4.5.4).	The occurrence of a fault can lead to the loss of the safety function between the checks. The loss of safety function is detected by the check.	Mainly characterized by structure.	Low to high	Low to medium	See annex F
3	Requirements of B and the use of well-tried safety principles shall apply. Safety-related parts shall be designed, so that <ul style="list-style-type: none"> a single fault in any of these parts does not lead to the loss of the safety function, and whenever reasonably practicable, the single fault is detected. 	When a single fault occurs, the safety function is always performed. Some, but not all, faults will be detected. Accumulation of undetected faults can lead to the loss of the safety function.	Mainly characterised by structure.	Low to high	Low to medium	See annex F
4	Requirements of B and the use of well-tried safety principles shall apply. Safety-related parts shall be designed, so that <ul style="list-style-type: none"> a single fault in any of these parts does not lead to a loss of the safety function, and the single fault is detected at or before the next demand upon the safety function, but that if this detection is not possible, an accumulation of undetected faults shall not lead to the loss of the safety function. 	When a single fault occurs the safety function is always performed. Detection of accumulated faults reduces the probability of the loss of the safety function (high DC). The faults will be detected in time to prevent the loss of the safety function.	Mainly characterised by structure.	High	High including accumulation of faults	See annex F