

ISO13849 – Safety of Machinery MTTF_d Certificate

The MTTF_d value (mean time to dangerous failure) of a component is used to calculate the probability of a potentially dangerous failure of a machine or system.

Hydraulic products from Atlantic Fluid Tech are designed and manufactured in accordance with UNI ISO 13849-2:2012 principles; products technical sheets are showing all the information (maximum pressure, maximum flow, materials, ratings, operations...) that must be observed by designers and users of this products.

For hydraulic components (e.g., valves), a MTTF_d value of 150 years can be presumed according to UNI ISO 13849-1:2015 if the fundamental and proven safety principles according to ISO 13849-2:2012 are adhered to as shown in table C.1 & C.2.

The MTTF_d value can be estimated higher if the average number of annual operations (n_{op}) is less than 1 million switching cycles.

An MTTF_d value can be estimated according to the table below:

	Basic and well-tried safety principles according to ISO 13849-2:2012	Relevant Standards	Typical Values MTTF _d (years) B _{10D} (cycles)
Hydraulic components with $n_{op} \geq 1,000,000$ cycles per year	Tables C.1 and C.2	ISO 4413	MTTF _D = 150
Hydraulic components with $1,000,000$ cycles per year $> n_{op} \geq 500,000$ cycles per year	Tables C.1 and C.2	ISO 4413	MTTF _D = 300
Hydraulic components with $500,000$ cycles per year $> n_{op} \geq 250,000$ cycles per year	Tables C.1 and C.2	ISO 4413	MTTF _D = 600
Hydraulic components with $250,000$ cycles per year $> n_{op}$	Tables C.1 and C.2	ISO 4413	MTTF _D = 1200

The customer is responsible for the implementation and operation of valves in accordance with UNI ISO 13849-1:2015.

The latter is responsible for machine safety, including the correct design and evaluation of hydraulic valves used in safety-related parts of control systems. As a result, the customer is responsible for ensuring compliance with normative and statutory requirements in the countries concerned.