



Certificate / Certificat Zertifikat / 合格証

ITT 2103101 C001

exida hereby confirms that the:

Cam-Tite Ball Valve

ITT Engineered Valves

Lancaster, PA - USA

The manufacturer
may use the mark:



Has been assessed per the relevant requirements of:

IEC 61508 : 2010 Parts 1-7

and meets requirements providing a level of integrity to:

Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type A, Route 2_H Device

**PFD_{avg} and Architecture Constraints
must be verified for each application**

Revision 1.0 August 3, 2021
Surveillance Audit Due
September 1, 2024

Safety Function:

The Valve will move to the designed safe position per the Actuator design within the specified safety time.

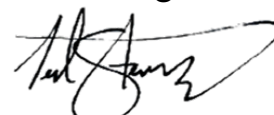
Application Restrictions:

The unit must be properly designed into a Safety Instrumented Function per the Safety Manual requirements.





Evaluating Assessor



Certifying Assessor

Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type A, Route 2_H Device

PFD_{avg} and Architecture Constraints must be verified for each application

Systematic Capability:

The product has met manufacturer design process requirements of Safety Integrity Level (SIL) 3. These are intended to achieve sufficient integrity against systematic errors of design by the manufacturer.

A Safety Instrumented Function (SIF) designed with this product must not be used at a SIL level higher than stated.

Random Capability:

The SIL limit imposed by the Architectural Constraints must be met for each element. This device meets *exida* criteria for Route 2_H.

IEC 61508 Failure Rates in FIT*

Application/Device/Configuration**	λ_{SD}	λ_{SU}	λ_{DD}	λ_{DU}
Full Stroke, Clean Service	0	0	0	413
Tight Shut-Off, Clean Service	0	0	0	1169
Open on Trip, Clean Service	0	129	0	284
Full Stroke, Severe Service	0	0	0	735
Tight Shut-Off, Severe Service	0	0	0	2227
Open on Trip, Severe Service	0	250	0	485

* FIT = 1 failure / 10⁹ hours

** See the assessment report for the applicable models.

SIL Verification:

The Safety Integrity Level (SIL) of an entire Safety Instrumented Function (SIF) must be verified via a calculation of PFD_{avg} considering redundant architectures, proof test interval, proof test effectiveness, any automatic diagnostics, average repair time and the specific failure rates of all products included in the SIF. Each element must be checked to assure compliance with minimum hardware fault tolerance (HFT) requirements.

The following documents are a mandatory part of certification:

Assessment Report: ITT 21-03-101 R002 V1 R1 (or later)

Safety Manual: W-1346



80 N Main St
Sellersville, PA 18960

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