

**Kendrion INTORQ GmbH**

Wülmser Weg 5  
31855 Aerzen

Postfach 11 03  
31849 Aerzen  
Deutschland

T +49 5154 70534-0  
F +49 5154 70534-100

deae-info@kendrion.com  
www.kendrion.com

Geschäftsführer:  
Dr. Andreas Laschet  
Lars Knoke

## Characteristic safety values for INTORQ products

### Definitions

It is assumed that the INTORQ brake is manufactured according to the series standard and dimensioned to suit the application.

B10, the average number of cycles until 10% of the components have failed (source: DIN EN ISO 13849-1:2008-12).

Brake type	B10*	Version
14.442 to size 14	3,000,000	all catalog versions
14.442 from size 16	2,000,000	without intermediate toothed ring
14.442 from size 16	8,000,000	with intermediate toothed ring
BFK454 to size 14	3,000,000	all catalog versions
BFK454 from size 16	2,000,000	without intermediate toothed ring
BFK455	2,000,000	without intermediate toothed ring
BFK455	8,000,000	with intermediate toothed ring
BFK456	3,000,000	all catalog versions
BFK457/458/557 to size 14	3,000,000	all catalog versions
BFK457/458/557 from size 16	2,000,000	without intermediate toothed ring
BFK457/458/557 from size 16	8,000,000	with intermediate toothed ring
BFK458L (longlife)	45,000,000	all catalog versions
BFK557	10,000,000	Use as emergency stop brake
BFK551	3,000,000	all catalog versions
BFK552	3,000,000	all catalog versions
BFK459 to size 14	3,000,000	all catalog versions
BFK459 size 16	3,000,000	without intermediate toothed ring
BFK459 size 16	8,000,000	with intermediate toothed ring
BFK460 to size 14	3,000,000	all catalog versions

<b>Brake type</b>	<b>B10*</b>	<b>Version</b>
BFK460 from size 16	3,000,000	without intermediate toothed ring
BFK460 from size 16	8,000,000	with intermediate toothed ring
BFK461 to size 14	7,500,000	all catalog versions
BFK461 from size 16	3,000,000	without intermediate toothed ring
BFK461 from size 16	8,000,000	with intermediate toothed ring
BFK464 "holding brakes"	10,000,000	Catalog versions without microswitch
BFK464 "holding brakes"	4,000,000	Catalog versions with microswitch
BFK464 "emergency brakes"	200,000	all catalog versions
BFK466	6,000,000	all catalog versions
BFK468 "holding brakes"	3,000,000	without intermediate toothed ring
BFK468 "holding brakes"	12,000,000	with intermediate toothed ring
BFK470 size 06 - 08 "service brakes"	2,000,000	all catalog versions
BFK470 size 06 - 08 "holding brakes"	3,000,000	all catalog versions
BFK470 size 10 + 12 "service brakes"	3,000,000	without intermediate toothed ring
BFK470 size 10 + 12 "service brakes"	4,000,000	with intermediate toothed ring
BFK470 size 10 + 12 "holding brakes"	3,000,000	without intermediate toothed ring
BFK470 size 10 + 12 "holding brakes"	8,000,000	with intermediate toothed ring
BFK470 size 14 "service brakes"	3,000,000	all catalog versions
BFK470 size 14 "holding brakes"	3,000,000	without intermediate toothed ring
BFK470 size 14 "holding brakes"	8,000,000	with intermediate toothed ring
BFK470 size 16 + 18 "service brakes"	3,000,000	without intermediate toothed ring
BFK470 size 16 + 18 "service brakes"	4,000,000	with intermediate toothed ring
BFK470 size 16 + 18 "holding brakes"	3,000,000	without intermediate toothed ring
BFK470 size 16 + 18 "holding brakes"	8,000,000	with intermediate toothed ring
14.800	3.000.000	all catalog versions
14.105	3.000.000	all catalog versions
14.115	3.000.000	all catalog versions
BFK470 size 06 - 08 "service brakes"	2.000.000	all catalog versions
BFK470 size 06 - 08 "holding brakes"	3.000.000	all catalog versions

\* The values given do not take into account the shaft-hub connection to be provided by the customer.

**Calculation formulas**

Source: DIN EN ISO 13849-1: 2008-12

$$MTTF = \frac{B_{10}}{0.1 \times n_{op}}$$

$$n_{op} = \frac{d_{op} \times h_{op} \times 3600 \frac{s}{h}}{t_{Zyklus}}$$

Based on the following assumptions, which have been made with regard to the application of the component:

$d_{op, \dots}$  is the average operating time in days per year

$h_{op, \dots}$  is the average operating time in hours per day

$t_{Zyklus, \dots}$  is the average time between the start of two successive cycles of the component in seconds per cycle.



By proxy Winfried Küter  
Global R&D Director (SA) Industrial Brakes



By proxy Jan-Oliver Schmidt  
Authorized representative

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