Molded case and Low voltage Power circuit breakers

1SDC001006B0202

ABB

ABB SACE.
At the forefront in Low Voltage.

ABB SACE is a synonym for quality and innovation in the Low Voltage sector, offering products which, by integrating perfectly, adapt to the various service and installation requirements thus satisfying all plant needs, from the small user up to large industrial electric power distributors.
ABB SACE's offer of low voltage circuit breakers makes high quality, reliable and precise products available, which guarantee high performances under any conditions, products safe during use and, when necessary, with easy replacement of faulty parts.

The SACE Emax series of power circuit breakers, now enriched with the new X1 size, cover all user needs from 800 up to 5000 A. X1 of Emax is proposed as the best solution for all those applications where dimensions are an important and determining factor in selecting the circuit breaker, without however necessarily having to give up high performance.
The SACE Tmax family of molded case circuit breakers is divided into eight sizes (T1-T7) with rated uninterrupted currents from 100 to 1200 A. Perfect integration between the sizes, higher performances in circuit breakers of even more limited dimensions, a range of standardized accesso-

ries which considerably simplifies selection of the apparatus … today all this is possible thanks to the eight sizes of the new Tmax molded case circuit breaker.
The Tmax family is completed by the new Tmax T7, available in two versions with manual and motorizable operating mechanism, to fulfill all installation and protection requirements – even the most specific ones.
The Tmax circuit breakers and their accessories are conformed to the UL489 and CSA C22.2 No.5.1 North American Standard and to the International IEC60947-2 Standards.
The Emax power circuit breakers are conformed to the ANSI C37.13, C37.16, C37.17 and C37.50 Standards and they are UL1066 certified. The UL1066 certification allows Emax to be used in UL1558 switchgears, gear UL891 Low Voltage switchboards and CSA C22.2 No.31 Switchgear Assemblies.

Ethic and social accountability

The **SA8000** international Standard (Social Accountability 8000) or **Social Accountability System** is the mostly widespread and well-known international Standard, which guarantees that the company is socially accountable and mainly involved **in respecting the principles of the work ethic and of the working condition**.

Based on the so-called "social accountability requirements", the SA8000 Standard confirms the **ethics of the whole production cycle** of a company with regard to child labor, freedom of employment, safeguarding personnel health and safety, freedom of association and the right to collective bargaining, equal opportunities, disciplinary procedures, wages and working hours, relationships with suppliers and integration with the communities where the company carries out its activities.

Also on the basis of the previous certification obtained by ABB Group Services Center in 2003, in 2004 ABB SACE S.p.A. decided to implement the management system for Social Accountability according to the SA8000 Standard at its sites in Frosinone and Patrica, which had already had their integrated QAS (Quality, Environment, Safety) management system certified in accordance with the ISO 9001:2000, ISO 14001:2004, and OHSAS 18001:99 Standards.

The initiative is part of the more general framework for the Group Function Sustainability Affairs activities of ABB, committed to implementation and pursuit of the objectives of ABB sustainability worldwide.

During the process for implementing the SA8000 Standard, all the personnel at Frosinone and Patrica took part in a series of confrontation and training meetings. **Suppliers and sub-suppliers were also involved**, called on to recognize and support the principles confirmed by the SA8000 Standard and the policy of ABB SACE S.p.A. for Social Accountability.

Among the multinationals in the electro-technical sector, ABB is, to date, the only certified SA8000 company. Yet again, ABB SACE is ahead of the field in offering a better and better customer service.

In conformity with the commitment and awareness of the group towards the environment, ABB SACE has always paid great attention to achieving the objectives of sustainable development and environmental protection. All the company production sites have obtained ISO 9001 quality certification, and most of them also have ISO 14001 certification of their environmental management system. The ABB SACE factories have also obtained certification for integrated management of their Quality, Environment and Safety systems in conformity with ISO 9001-2000, ISO 14001-96 and OHSAS 18001 Standards. From the safety viewpoint, ABB SACE is, once again, a guarantee of conformity with the electrical safety standards, in respect of the international Standards. Our products undergo the most severe tests for conformity with standards as well as the necessary type tests in the ABB laboratories, accredited by the most important national and international Organizations (SINAL, ACAE and LOVAG).

Molded case circuit breakers for power distribution

Type				Tmax T1 1p	Tmax T1	Tmax T2		Tmax T3		Tmax Ts3					
Frame size			[A]	100	100	100		225		150			225		
Number of poles			[No.]	1	3-4	3[6]-4		3-4		2-3-4			2-3-4		
Rated voltage	AC (50-60 Hz)		[V]	347	600Y/347	480		600Y/347		600			480		
	DC		[V]		500			500		600			500		
Interrupting ratings				**B**	**N**	**S**	**H**	**N**	**S**	**N**	**H**	**L**	**N**	**H**	**L**
	240 V AC		[kA rms]		50[2]	65	150	50	65	65	100	150	65	100	150
	277 V AC		[kA rms]	18[1]											
	347 V AC		[kA rms]	14[1]											
	480 V AC		[kA rms]		22[2]	35	65	25	35	25	50	85[5]	25	50	65
	600Y/347 V AC		[kA rms]		10			10	10						
	600 V AC		[kA rms]							14	14	25			
	250 V DC (2 poles in series)		[kA rms]		25			25	35						
	500 V DC (3 poles in series)		[kA rms]		25			25	35						
	500 V DC (2 poles in series)		[kA rms]							35	50	65	20	35	50
	600 V DC (3 poles in series)		[kA rms]							20	35	50			
Execution				F	F	F-P		F-P		F-P-W			F-P-W		
Trip units		TMF		■	■	■		■		■			■		
		TMD/TMA													
		MA				■		■		■			■		
		Electronic				■									
		PR212/P													
		PR221 DS				■									
		PR222DS/P													
		PR222DS/PD-A													
		PR231/P													
		PR232/P													
		PR331/P													
		PR332/P													
Dimensions		H	[*in*/mm]	*5.12*/130	*5.12*/130	*5.12*/130		*5.9*/150		*6.7*/170			*6.7*/170		
		W 3p	[*in*/mm]	*1*/25.4	*3*/76	*3.54*/90		*4.13*/105		*4.13*/105			*4.13*/105		
		D	[*in*/mm]	*2.76*/70	*2.76*/70	*2.76*/70		*2.76*/70		*4.07*/103.5			*4.07*/103.5		
Mechanical life			[No. operations]	25000	25000	25000		25000		25000			25000		

[1] In 15 A = 10 kA @ 277 V AC - 10 kA @ 347 V AC
[2] In 15 A = 35 kA @ 240 V AC - 14 kA @ 480Y/277 V AC
[3] T5 600 with electronic trip units only and in three pole version
[4] 2p T4N 250 and T5N 400: available only in N interrupting rating
[5] In from 15 A up to 30 A = 65 kA @ 480 V AC
[6] T2H 100 3p, T4H 250 3p, T4V 250 3p, T5H 400 3p, T5V 400 3p are Current Limiting CB

F = Fixed
P = Plug in
W = Draw out





	Tmax T4					Tmax T5					Tmax T6				Tmax T7			Isomax S8
	250					400-600[3]					800				1000-1200			1600-2000-2500
	2-3[6]-4[4]					2-3[6]-4[4]					3-4				3-4			3
	600					600					600				600			600
	600					600					600							
	N	**S**	**H**	**L**	**V**	**N**	**S**	**H**	**L**	**V**	**N**	**S**	**H**	**L**	**S**	**H**	**L**	**V**
	65	100	150	200	200	65	100	150	200	200	65	100	200	200	65	100	150	125
	25	35	65	100	150	25	35	65	100	150	35	50	65	100	50	65	100	100
	18	25	35	65	100	18	25	35	65	100	20	25	35	42	25	50	65	85
	25	35	50	65	100	25	35	50	65	100	35	35	50	65				
	16	25	35	50	65	16	25	35	50	65	20	20	35	50				
	F-P-W					F-P-W					F-W				F-W			F
			■															
			■					■					■					
			■					■					■			■		■
																		■
			■					■					■					
			■					■					■					
			■					■					■					
																■		
																■		
																■		
																■		
	8.07/205					*8.07*/205					*10.55*/268				*10.55*/268			*15.75*/400
	4.13/105					*5.51*/140					*8.26*/210				*8.26*/210			*15.98*/406
	4.07/103.5					*4.07*/103.5					*4.07*/103.5				*6.06*/154 (toggle) - 7/178 (motor)			*9.25*/235
	20000					20000					20000				10000			10000

Molded case circuit breakers for specific applications

MCP: Motor Control Protection circuit breaker

Type			Tmax T2		Tmax T3	Tmax Ts3			Tmax T4			
Frame size			100		225	150-225			250			
Poles			3		3	3			3			
Ratings			20…100		100…200	3…25	50…150	175…200	100-150-250			
Icu			**S**	**H**	**S**	**L**	**L**	**L**	**N**	**S**	**H**	**L**
	240 V AC		65	150	65	50	150	150	65	100	150	200
	480 V AC		35	65	35	25	85	65	25	35	65	100
	600Y/347 V AC				10							
	600 V AC					10	25		18	25	35	65
	500 V DC				35	65[1]	65	50				
	600 V DC					50	50					
Trip unit	Adjustable magnetic only (6…12xIn)		■	■	■							
	Adjustable magnetic only (4…12xIn)					■	■	■				
	PR221DS-I		■	■					■	■	■	■
	PR231/P-I											
	PR211/P-I											

[1] Only for 25A rating

MCS: Molded Case Switches

Type			Tmax T1N-D	Tmax T3S-D	Tmax T3S-D	Tmax Ts3H-D 150
Rating		[A]	100	150	225	150
Poles		[No.]	3-4	3-4	3-4	3-4
Magnetic override		[A]	1000	1500	2250	1500
Rated Voltage	AC (50-60 Hz)	[V]	600Y/347	600Y/347	600Y/347	600
	DC	[V]	500	500	500	600

Tmax Current Limiting

Type			Tmax T2	Tmax T4		Tmax T5	
Frame size		[A]	100	250		400	
Number of poles		[No.]	3	3		3	
Rated voltage	AC (50-60 Hz)	[V]	480	600		600	
	DC	[V]		600		600	
Interrupting ratings			**H**	**H**	**V**	**H**	**V**
	240 V AC	[kA rms]	150	150	200	150	200
	277 V AC	[kA rms]					
	347 V AC	[kA rms]					
	480 V AC	[kA rms]	65	65	150	65	150
	600Y/347 V AC	[kA rms]					
	600 V AC	[kA rms]		35	100	35	100
	250 V DC (2 poles in series)	[kA rms]					
	500 V DC (3 poles in series)	[kA rms]					
	500 V DC (2 poles in series)	[kA rms]		50	100	50	100
	600 V DC (3 poles in series)	[kA rms]		35	65	35	65
Trip units	TMF		■	■			
	TMD/TMA			■		■	
	Electronic		■	■		■	
Dimensions	H	[*in*/mm]	*5.12*/130	*8.07*/205		*8.07*/205	
	W 3p	[*in*/mm]	*3.54*/90	*4.13*/105		*5.51*/140	
	D	[*in*/mm]	*2.76*/70	*4.07*/103.5		*4.07*/103.5	
Mechanical life		[No. operations]	25000	20000		20000	

	Tmax T5				Tmax T6				Tmax T7			Isomax S8
	400-600				800				1000-1200			1600-2000-2500
	3				3				3			3
	300-400-600				600-800				1000-1200			1600-2000-2500
	N	**S**	**H**	**L**	**N**	**S**	**H**	**L**	**S**	**H**	**L**	**V**
	65	100	150	200	65	100	200	200	65	100	150	120
	25	35	65	100	35	50	65	100	50	65	100	100
	18	25	35	65	20	25	35	42	25	50	65	85
	■	■	■	■	■	■	■	■				
									■	■	■	
												■

	Tmax Ts3H-D 225	Tmax T4N-S-H-L-V-D	Tmax T5N-S-H-L-V-D	Tmax T6H-D	Tmax T7H-D	Isomax S8V-D
	225	250	400-600	800	1200	2500
	3-4	3-4	3-4	3-4	3-4	3
	2250	3000	5000	10000	20000	35000
	480	600	600	600	600	600
	500	600	600	600	–	600

Emax power circuit breakers for distribution

Common data			
Voltages			
	Rated maximum voltage	[V]	635
	Rated voltage	[V]	600
	Test voltage (1 min. 50/60 Hz)	[kV]	2.2
Frequency		[Hz]	50 - 60
Number of poles			3 - 4
Version			Fixed (F) - Draw out (W)

			X1	E1		E2			
Level of performance			B-A	B-A	N-A	B-A	N-A	S-A	H-A
Currents									
Frame size		[A]	**800**	**800**	**800**	**1600**	**800**	**800**	**800**
		[A]		**1200**	**1200**		**1200**	**1200**	**1200**
		[A]					**1600**	**1600**	**1600**
		[A]							
		[A]							
		[A]							
Capacity of neutral pole for four-pole circuit breakers		[%Iu]	100	100	100	100	100	100	100
Rated short circuit current									
	240 V	[kA]	42	42	50	42	65	65	85
	480 V	[kA]	42	42	50	42	50	65	85
	600 V	[kA]	–	42	50	42	50	65	65
Rated short time current		[kA]	42	42	50	42	50	65	65
Trip units	PR121/P		–	■	■	■	■	■	■
	PR122/P		–	■	■	■	■	■	■
	PR123/P		–	■	■	■	■	■	■
	PR331/P		■	–	–	–	–	–	–
	PR332/P		■	–	–	–	–	–	–
	PR333/P		■	–	–	–	–	–	–
Trip times	Make time (max)	[ms]	80	80	80	80	80	80	80
	Break time (I<ST current) (max)	[ms]	70	70	70	70	70	70	70
	Break time (I>ST current) (max)	[ms]	30	30	30	30	30	30	12
Overall dimensions									
Fixed: H = 418 mm/*16.46 in* - D = 302 mm/*11.89 in*[1]									
	W (3 poles/4 poles)	[mm]	210/280	296/386		296/386			
	W (3 poles/4 poles)	*[in]*	*8.27/11.02*	*11.65/15.20*		*11.65/15.20*			
Draw out: H = 461 mm/*18.15 in* - D = 396.5 mm/*15.61 in*[*]									
	W (3 poles/4 poles)	[mm]	284/354	324/414		324/414			
	W (3 poles/4 poles)	*[in]*	*11.18/13.94*	*12.76/16.30*		*12.76/16.30*			
Weights (circuit breaker complete with trip unit, RH terminals, CS, excluding accessories)									
Fixed	3 poles/4 poles	[kg]	11/14	45/54		50/61			
	3 poles/4 poles	*[lbs]*	*24.26/30.87*	*99.23/119.07*		*110.25/134.51*			
Draw out	3 poles/4 poles	[kg]	32/42.6	70/82		78/93			
	3 poles/4 poles	*[lbs]*	*70.56/93.93*	*154.35/180.81*		*171.99/205.07*			

[1] four poles only
[*] for X1: H = 268 mm/*10.55 in* – D = 181 mm/*7.13 in*; for E3X-A: H = 438 mm/*17.24 in* – D = 302 mm/*11.89 in*
[**] for X1: H = 343 mm/*13.5 in* – D = 254 mm/*10 in*; for E3X-A: H = 481 mm/*18.94 in* – D = 396.5 mm/*15.61 in*

		X1 B-A	E1 B-A / N-A		E2 B-A / N-A / S-A / H-A		
Continuous current rating Iu	[A]	**800**	**800**	**1200**	**800**	**1200**	**1600**
Mechanical life with regular ordinary maintenance	[No. Operations x 1000]	12.5	20	20	20	20	20
Operation frequency	[Operations/hour]	60	30	30	30	30	30
Electrical life	[No. Operations x 1000]	6	10	10	10	10	10
Operation frequency	[Operations/hour]	30	30	30	30	30	30

[2] 10 for E3X-A [3] 1.5 for E3X-A

	E3					E4					E6					
	N-A	S-A	H-A	V-A	X-A	S-A	H-A	V-A	L-A	H-A/f[1]	H-A	V-A	L-A	X-A	H-A/f[1]	X-A/f[1]
	2000	**800**	**800**	**800**	**800**	**3200**	**3200**	**3200**	**3200**	**3200**	**4000**	**4000**	**4000**	**4000**	**4000**	**4000**
	2500	**1200**	**1200**	**1200**	**1200**	**3600**	**3600**	**3600**	**3600**	**3600**	**5000**	**5000**	**5000**	**5000**	**5000**	**5000**
		1600	**1600**	**1600**	**1600**											
		2000	**2000**	**2000**	**2000**											
		2500	**2500**	**2500**												
		3200	**3200**	**3200**												
	100	100	100	100	100	50	50	50	50	100	50	50	50	50	100	100
	65	85	85	125	200	85	100	100	125	100	125	125	150	200	125	200
	50	65	85	125	200	65	85	100	125	85	85	125	150	200	85	200
	50	65	85	100	14	65	85	100	100	85	85	100	100	100	85	100
	50	65	65	85	14	65	85	100	100	85	100	100	100	100	100	100
	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
			404/530				566/656			746		782/908			1034	
			15.91/20.87				*22.28/25.83*			*29.37*		*30.79/35.75*			*40.71*	
			432/558				594/684			774		810/936			1062	
			17.01/21.97				*23.39/26.93*			*30.47*		*31.89/36.85*			*41.81*	
		66/80			70/84		97/117			125		140/160			185	
		145.53/176.40			*154.35/185.22*		*213.89/257.99*			*275.63*		*308.70/352.80*			*407.93*	
		104/125			106/128		147/165			200		210/240			275	
		229.32/275.63			*233.73/282.24*		*324.14/363.83*			*441.00*		*463.05/529.20*			*606.38*	

	E3 N-A / S-A / H-A / V-A / X-A						E4 S-A / H-A / V-A / L-A / H-A/f		E6 H-A / V-A / L-A / X-A / H-A/f / X-A/f	
	800	**1200**	**1600**	**2000**	**2500**	**3200**	**3200**	**3600**	**4000**	**5000**
	15[2]	15[2]	15[2]	15[2]	15	15	8	8	8	8
	30	30	30	30	30	30	30	30	30	30
	10[3]	10[3]	10[3]	8[3]	8	8	5	5	5	3
	30	30	30	30	30	30	30	30	30	30

Emax power circuit breakers for specific applications

Emax UL switches

Type			X1B-A/MS	E1B-A/MS	E1N-A/MS	E2B-A/MS	E2N-A/MS	E2S-A/MS
Frame size		[A]	**800**	**800**	**800**	**1600**	**800**	**800**
		[A]		**1200**	**1200**		**1200**	**1200**
		[A]					**1600**	**1600**
		[A]						
		[A]						
		[A]						
Number of poles			3/4	3/4	3/4	3/4	3/4	3/4
Capacity of neutral pole for four-pole circuit breakers		[%Iu]	100	100	100	100	100	100
Rated voltage		[V]	480	600	600	600	600	600
Rated maximum voltage		[V]	508	635	635	635	635	635
Test voltage (1 min. 50/60 Hz)		[kV]	2.2	2.2	2.2	2.2	2.2	2.2
Frequency		[Hz]	50-60	50-60	50-60	50-60	50-60	50-60
Rated short time current		[kA]	42	42	50	42	50	65
Version			F - W	F - W	F - W	F - W	F - W	F - W

IEC 60947-2

Type			X1			E1		E2			
Levels of performance			**B**	**N**	**L**	**B**	**N**	**B**	**N**	**S**	**L**
Currents: rated uninterrupted current (at 40°C) Iu		[A]	**630**	**630**	**630**	**800**	**800**	**1600**	**1000**	**800**	**1250**
		[A]	**800**	**800**	**800**	**1000**	**1000**	**2000**	**1250**	**1000**	**1600**
		[A]	**1000**	**1000**	**1000**	**1250**	**1250**		**1600**	**1250**	
		[A]	**1250**	**1250**	**1250**	**1600**	**1600**		**2000**	**1600**	
		[A]	**1600**	**1600**						**2000**	
		[A]									
		[A]									
Capacity of neutral pole for four-pole circuit breakers		[%Iu]	100	100	100	100	100	100	100	100	100
Rated ultimate breaking capacity under short circuit **Icu**	220/230/380/400/415 V	[kA]	42	65	150	42	50	42	65	85	130
	440 V	[kA]	42	65	130	42	50	42	65	85	110
	500/525 V	[kA]	42	50	100	42	50	42	55	65	85
	660/690 V	[kA]	42	50	60	42	50	42	55	65	85
Rated service breaking capacity under short circuit **Ics**	220/230/380/400/415 V	[kA]	42	50	150	42	50	42	65	85	130
	440 V	[kA]	42	50	130	42	50	42	65	85	110
	500/525 V	[kA]	42	42	100	42	50	42	55	65	65
	660/690 V	[kA]	42	42	45	42	50	42	55	65	65
Rated short time whitstand current **Icw** (1s)		[kA]	42	42	15	42	50	42	55	65	10

UL 1066 and IEC 60947-2

Type			X1	E1	E2
Overall dimensions					
Fixed: H = 418 mm/*16.46 in*; D = 302 mm/*11.89 in*(*)					
	W (3 poles/4 poles)	[mm]	210/280	296/386	296/386
	W (3 poles/4 poles)	*[in]*	*8.27/11.02*	*11.65/15.2*	*11.65/15.2*
Draw out: H = 461 mm/*18.15 in*; D = 396.5 mm/*15.61 in*(**)					
	W (3 poles/4 poles)	[mm]	284/354	324/414	324/414
	W (3 poles/4 poles)	*[in]*	*11.18/13.94*	*12.76/16.3*	*12.76/16.3*
Weights (circuit breaker complete with trip unit, RH terminals, CS, excluding accessories)					
Fixed	3 poles/4 poles	[Kg]	11/14	45/54	50/61
	3 poles/4 poles	*[lbs]*	*24.26/30.87*	*99.23/119.07*	*110.25/134.51*
Draw out	3 poles/4 poles	[Kg]	32/42.6	70/82	78/93
	3 poles/4 poles	*[lbs]*	*70.56/93.93*	*154.35/180.81*	*171.99/205.07*

(1) four poles only
(2) 100% neutral protection
(3) for E3X-A only
(4) the performance at 600 V is 100 kA

(*) for X1: H = 268 mm/*10.55 in* – D =181 mm/*7.13 in*; for E3X-A: H = 438 mm/*17.24 in* – D = 302 mm/*11.89 in*
(**) for X1: H = 343 mm/*13.5 in* – D = 254 mm/*10 in*; for E3X-A: H = 481 mm/*18.94 in* – D = 396.5 mm/*15.61 in*

	E3N-A/MS	E3S-A/MS	E3V-A/MS	E4S-A/MS	E4H-A/MS	E4V-A/MS	E4H-Af/MS	E6H-A/MS	E6H-Af/MS
	2000	**800**	**800**	**3200**	**3200**	**3200**	**3200**	**4000**	**4000**
	2500	**1200**	**1200**	**3600**	**3600**	**3600**	**3600**	**5000**	**5000**
		1600	**1600**						
		2000	**2000**						
		2500	**2500**						
		3200	**3200**						
	3/4	3/4	3/4	3/4	3/4	3/4	4	3/4	4
	100	100	100	50	50	50	100	50	100
	600	600	600	600	600	600	600	600	600
	635	635	635	635	635	635	635	635	635
	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	50-60	50-60	50-60	50-60	50-60	50-60	50-60	50-60	50-60
	50	65	85	65	85	100	85	100	100
	F - W	F - W	F - W	F - W	F - W	F - W	F - W	F - W	F - W

	E3					E4					E6		
	N	**S**	**H**	**V**	**L**	**S**	**H**	**V**	**S/f(1)**	**H/f(1)**	**H**	**V**	**H/f(1)**
	2500	**1000**	**800**	**800**	**2000**	**4000**	**3200**	**3200**	**4000**	**3200**	**4000**	**3200**	**4000**
	3200	**1250**	**1000**	**1250**	**2500**		**4000**	**4000**		**4000**	**5000**	**4000**	**5000**
		1600	**1250**	**1600**							**6300**	**5000**	**6300**
		2000	**1600**	**2000**								**6300**	
		2500	**2000**	**2500**									
		3200	**2500**	**3200**									
			3200										
	100	100	100	100	100	50	50	50	100	100	50	50	100
	65	75	100	130	130	75	100	150	80	100	100	150	100
	65	75	100	130	110	75	100	150	80	100	100	150	100
	65	75	100	100	85	75	100	130	75	100	100	130	100
	65	75	85(4)	100	85	75	85(4)	100	75	100	100	100	100
	65	75	85	100	130	75	100	150	80	100	100	125	100
	65	75	85	100	110	75	100	150	80	100	100	125	100
	65	75	85	85	65	75	100	130	75	100	100	100	100
	65	75	85	85	65	75	85	100	75	100	100	100	100
	65	75	75	85	15	75	100	100	80	85	85	85	100

	E3		E4		E6	
	404/530		566/656	746(2)	782/908	1034(2)
	15.91/20.87		*22.28/25.83*	*29.37*	*30.79/35.75*	*40.71*
	432/558		594/684	774(2)	810/936	1062(2)
	17.01/21.97		*23.39/26.93*	*30.47*	*31.89/36.85*	*41.81*
	66/80	70/84(3)	97/117	125(2)	140/160	185(2)
	145.53/176.40	*154.35/185.22(3)*	*213.89/257.99*	*275.63*	*308.70/352.80*	*407.93*
	104/125	106/128(3)	147/165	200(2)	210/240	275(2)
	229.32/275.63	*233.73/282.24(3)*	*324.14/363.83*	*441*	*463.05/529.2*	*606.38*

Due to possible developments of standards as well as of materials, the characteristics and dimensions specified in the present catalogue may only be considered binding after confirmation by ABB SACE.

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