15.5 kV E-Rated medium voltage fuses for feeder circuit, switchgear and transformer protection

Description:

- Bussmann™ series of E-Rated, current-limiting, medium voltage fuses are for feeder circuit, switchgear and transformer protection.

Features and benefits

- Current-limiting E-Rated medium voltage fuses are defined by their melting time-current characteristic that permit their electrical interchangeability with other fuses of the same E Rating.
- E-Rated fuses must have a defined current response time specified by ANSI C37.46. E-Rated fuses of 100 amps and below must melt in 300 seconds at an RMS current within the range of 200% to 240% of the fuse's nameplate current rating. E-Rated fuses greater than 100 amps must melt within 600 seconds at an RMS current in the range of 220% to 264% of the fuse's nameplate current rating.
- E-Rated fuses are physically dimensioned for easy installation in existing hardware.
- Current-limiting fuses provide positive interruption even on low fault currents. The fuse limits the magnitude of electromechanical stresses in the protected apparatus.
- Constructions available in ferrule, bolt-on and clip-lock, and specialty mount fuses for AMPGARD motor starters.
- Outdoor rating available on select catalog numbers (requires installation in a suitable enclosure).
- Open fuse indicator speeds troubleshooting by providing a positive visual indication of fuse operation.
- 50/60 Hz operating frequency for worldwide application.
- Mountings are available in disconnect and non-disconnect versions with porcelain or glass polyester insulators.
- Live parts and end fittings available.

Typical applications:

- Medium voltage transformer primary protection
- Medium voltage feeder circuit protection
- Medium voltage switches
- Medium voltage metal-enclosed switchgear

E-Rated medium voltage ferrule fuses

Catalog symbols:

- General purpose
  - 15CLE-_E-D (long construction, 10-25 A)
  - 15CLE-_E (long construction, 15-300 A)
  - 15HLE-_E (short construction, 10-250 A)
  - 15LHLE-_E (intermediate construction, 65-300 A)
- Full range (per ANSI C37.40)
  - MV155F_

Ratings*:

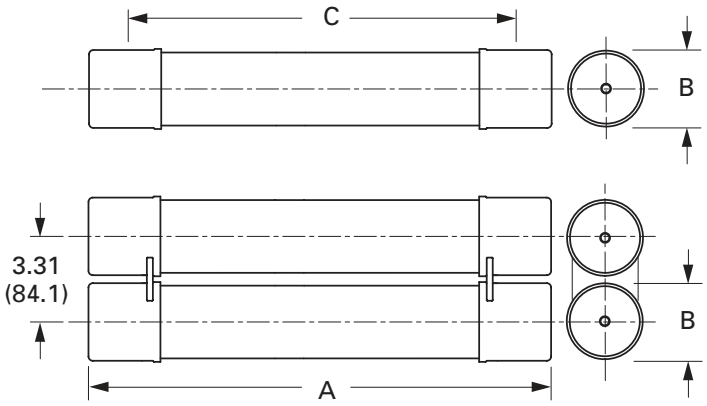
- Volts — 15.5 kV
- Amps — 10 to 300 A
- Interrupting ratings — 31.5 to 63 kA RMS Sym.

* See catalog number tables for voltages, ampacities and interrupting ratings by catalog number.

Agency information:

- E-Rated fuses meet the performance characteristics of ANSI C37.46
- UL® Listed, Guide JEEG, File E240398. See catalog numbers.

Dimensions (see catalog number tables for values)



Recommended fuseclips and holders:

Amp rating	Fuse mounting type	Voltage BIL (kV)	Approximate dimensions - in (mm)			Catalog number			
						Mounting (including live parts, end fittings)**		Live parts (including end fittings)	End fittings (disconnect only)
			Diameter	Clip center	Length	Porcelain insulator	Glass-polyester insulator		
CLE									
15E–25E Single barrel	Non-disconnect	95	2 (51)	20 (508)	21.5 (546)	15CLE-PNM-C	15CLE-GNM-C	CLE-NL-C	—
		110				15CLE-HPNM-C	—	CLE-NL-C	—
	Disconnect†	95				15CLE-PDM-C	15CLE-GDM-C	CLE-DL-C	CLE-DF-C
		110				15CLE-HPDM-C	—	CLE-DL-C	CLE-DF-C
10E-D–25E-D 30E–100E Single barrel	Non-disconnect	95	3 (76)	20 (508)	23.9 (607)	15CLE-PNM-D	15CLE-GNM-D	CLE-NL-D	—
		110				15CLE-HPM-D	—	CLE-NL-D	—
	Disconnect†	95				15CLE-PDM-D	15CLE-GNM-D	CLE-DL-D	CLE-DF-D
		110				15CLE-HPDM-D	—	CLE-DL-D	CLE-DF-D
125E–300E Double barrel	Non-disconnect	110	3 (76)	20 (508)	23.9 (607)	15CLE-PNM-E	—	CLE-NL-E	—
	Disconnect†	110				15CLE-PDM-E	—	CLE-DL-E	CLE-DF-E
HLE									
10E-80E Single barrel	Non-disconnect	95	3 (76)	15 (381)	18.9 (480)	15HLE-PNM-D	15HLE-GNM-D	CLE-NL-D	—
	Disconnect†	95				15HLE-PDM-D	15HLE-GDM-D	CLE-DL-D	CLE-DF-D
100E–250E Double barrel	Non-disconnect	95	3 (76)	15 (381)	18.9 (480)	15HLE-PNM-E	—	CLE-NL-E	—
	Disconnect†	95				15HLE-PDM-E	—	CLE-DL-E	CLE-DF-E
LHLE									
65E–100E Single barrel	Non-disconnect	—	3 (76)	18 (457)	20.53 (521)	Not available	Not available	CLE-NL-D	—
	Disconnect†	—				Not available	Not available	CLE-DL-D	CLE-DF-D
125E–300E Double barrel	Non-disconnect	—	3 (76)	18 (457)	20.53 (521)	Not available	Not available	CLE-NL-E	—
	Disconnect†	—				Not available	Not available	CLE-DL-E	CLE-DF-E

** End fittings supplied only when required.

† Disconnect mountings provide a means for fuse extraction only. Do not use a disconnect mounting for load switching or fuse removal while energized.

CLE, HLE and LHLE Type general purpose fuses

Amps	Dimensions — in (mm) Length A	Diameter B	Clip centers C	IR RMS Sym. (kA)	No. of barrels	Installation location	Catalog no.
CLE Long construction							
10	23.9 (607)	3 (76)		63		Indoor/outdoor	15CLE-10E-D
15	21.5 (546)	2 (51)		31.5		Indoor	15CLE-15E*
15	23.9 (607)	3 (76)		63		Indoor/outdoor	15CLE-15E-D
20	21.5 (546)	2 (51)		31.5		Indoor	15CLE-20E*
20	23.9 (607)	3 (76)		63		Indoor/outdoor	15CLE-20E-D
25	21.5 (546)	2 (51)		31.5		Indoor	15CLE-25E*
25					1		15CLE-25E-D
30							15CLE-30E
40							15CLE-40E†
50			20 (508)				15CLE-50E†
65							15CLE-65E†
80							15CLE-80E†
100	23.9 (607)	3 (76)		63		Indoor/outdoor	15CLE-100E†
125							15CLE-125E-D†
150							15CLE-150E-D†
175					2		15CLE-175E†
200							15CLE-200E†
250							15CLE-250E†
300							15CLE-300E†
HLE Short construction							
10							15HLE-10E
15							15HLE-15E
20							15HLE-20E
25							15HLE-25E
30					1		15HLE-30E
40							15HLE-40E†
50							15HLE-50E†
65	18.9 (480)	3 (76)	15 (381)	63		Indoor/outdoor	15HLE-65E†
80							15HLE-80E†
100							15HLE-100E-D†
125							15HLE-125E-D†
150					2		15HLE-150E†
175							15HLE-175E†
200							15HLE-200E†
250							15HLE-250E†
LHLE							
65							15LHLE-65E
80					1		15LHLE-80E
100							15LHLE-100E
125							15LHLE-125E-D
150	20.5 (521)	3 (76)	18 (457)	50		Indoor/outdoor	15LHLE-150E-D
175					2		15LHLE-175E
200							15LHLE-200E
250							15LHLE-250E
300							15LHLE-300E

* Fuses conform to dimensional standards established by Westinghouse.
† UL Listed, Guide JEEG, File E240398.

MV155F_ Full range

Amps	Dimensions — in (mm) Length A	Diameter B	Clip centers C	IR RMS Sym. (kA)	No. of barrels	Installation location	Catalog no.
5							MV155F1CBX5E
7		2 (51)					MV155F1CBX7E
10							MV155F1CBX10E
10		3 (76)					MV155F1DBX10E
15		2 (51)					MV155F1CBX15E
15		3 (76)					MV155F1DBX15E
20		2 (51)					MV155F1CBX20E
20	18.7 (475)	3 (76)	15 (381)				MV155F1DBX20E
25		2 (51)					MV155F1CBX25E
25		3 (76)			1		MV155F1DBX25E
30		2 (51)					MV155F1CBX30E
30							MV155F1DBX30E
40							MV155F1DBX40E
50							MV155F1DBX50E
65				50		Indoor	MV155F1DBX65E
65	21.7 (551)		18 (457)				MV155F1DCX65E
80	18.7 (475)		15 (381)				MV155F1DBX80E
80	21.7 (551)		18 (457)				MV155F1DCX80E
100	18.7 (475)		15 (381)				MV155F1DBX100E
100	21.7 (551)	3 (76)	18 (457)				MV155F1DCX100E
125	18.7 (475)		15 (381)				MV155F2DBX125E
125	21.7 (551)		18 (457)				MV155F2DCX125E
150	18.7 (475)		15 (381)				MV155F2DBX150E
150	21.7 (551)		18 (457)		2		MV155F2DCX150E
175	18.7 (475)		15 (381)				MV155F2DBX175E
175	21.7 (551)		18 (457)				MV155F2DCX175E
200	18.7 (475)		15 (381)				MV155F2DBX200E
200	21.7 (551)		18 (457)				MV155F2DCX200E

Recommended CLE, HLE and MV155 fuseclips

Description	Fuse diameter - in (mm)	Figure	Clip dimensions - in (mm) A	B	C	D	E	F	G	Catalog number
Enclosed fuseclip	2 (51)	1	3.75 (95)	1.98 (50)	2.01 (51)	1.19 (30)	4.54 (115)	1.51 (38)	0.4 (10)	A3354710*
Enclosed fuseclip	3 (76)		4.14 (105)	2.45 (62)	3.01 (76)	1.19 (30)	5.64 (143)	1.51 (38)	0.4 (10)	A3354730*
Open fuseclip		2	See dimensions drawing							1A0065
Spring loaded open fuseclip		3								9078A67G04

*For single barrel applications only. Not sold in pairs.

Figure 1

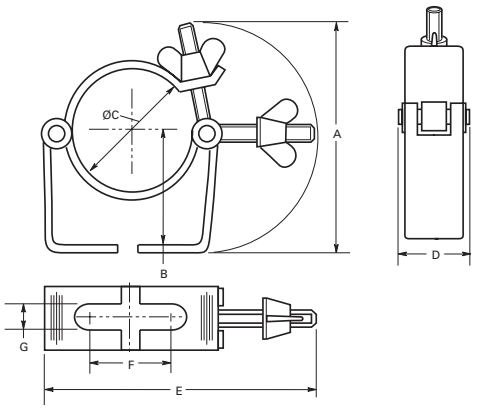


Figure 2

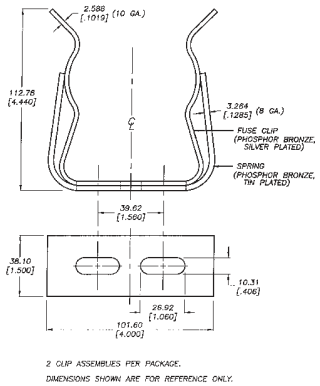
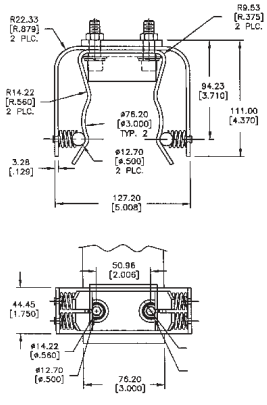
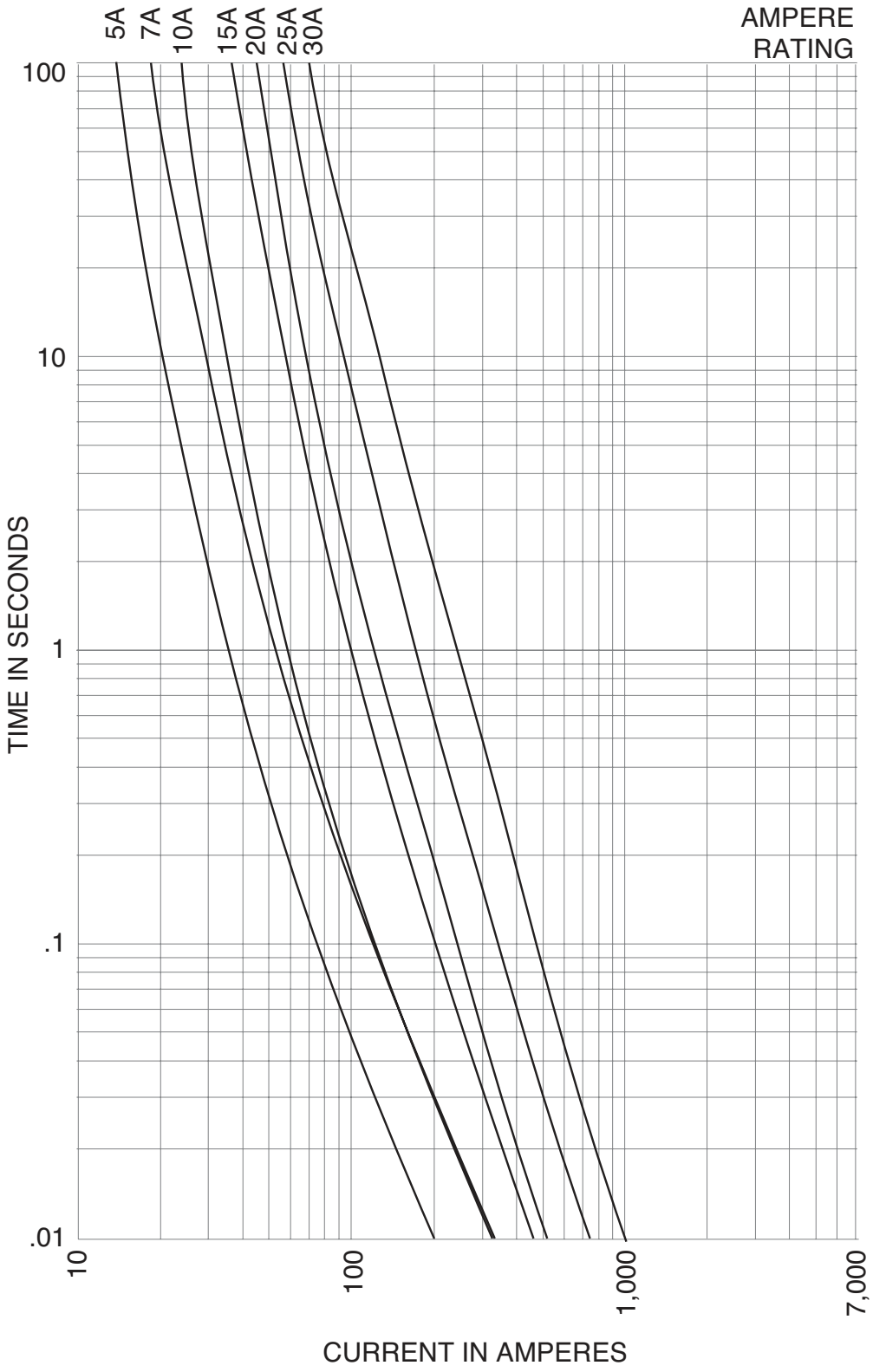


Figure 3

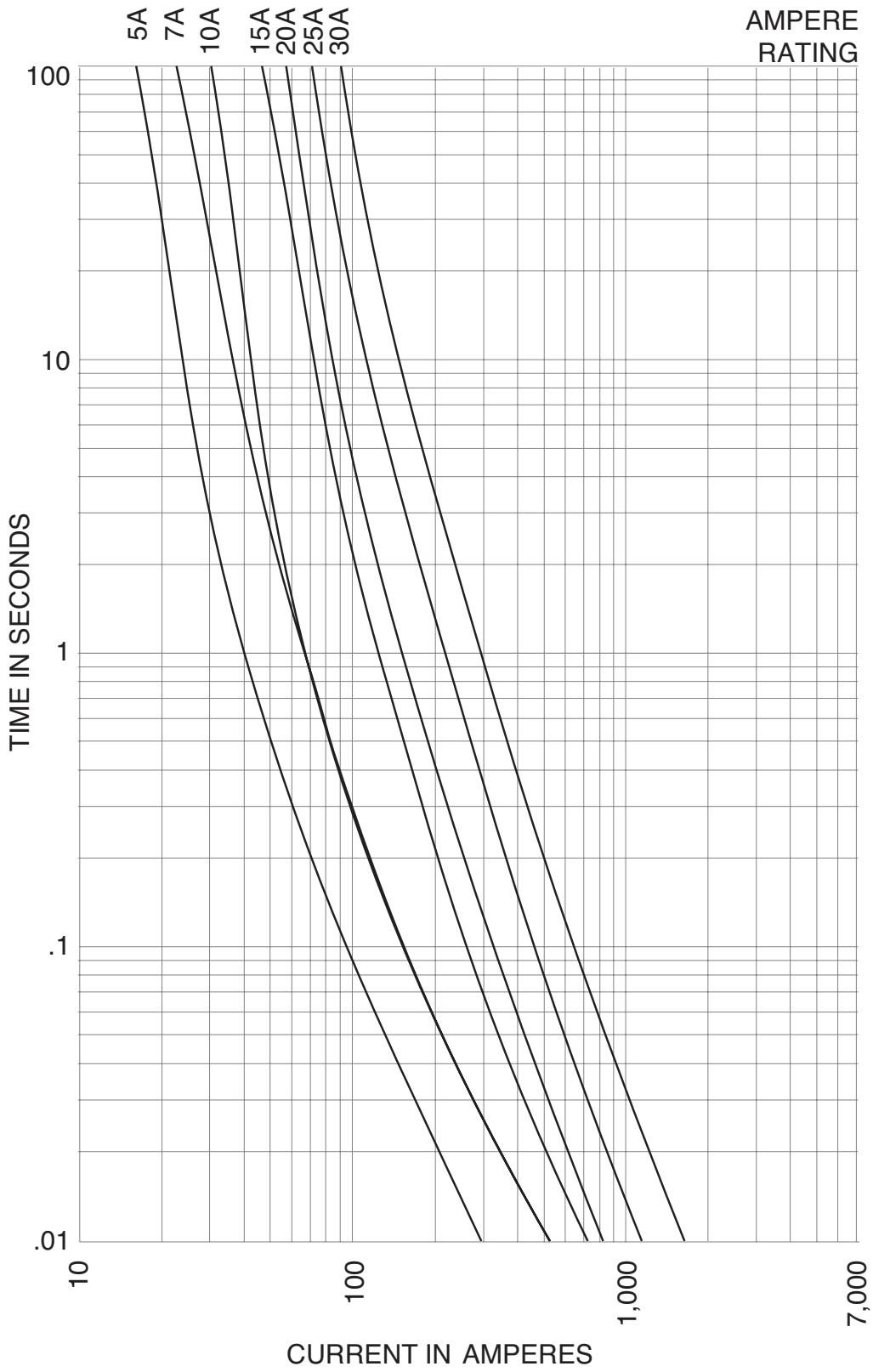


15.5 kV time-current curves — minimum melt for MV155 2 inch diameter fuses



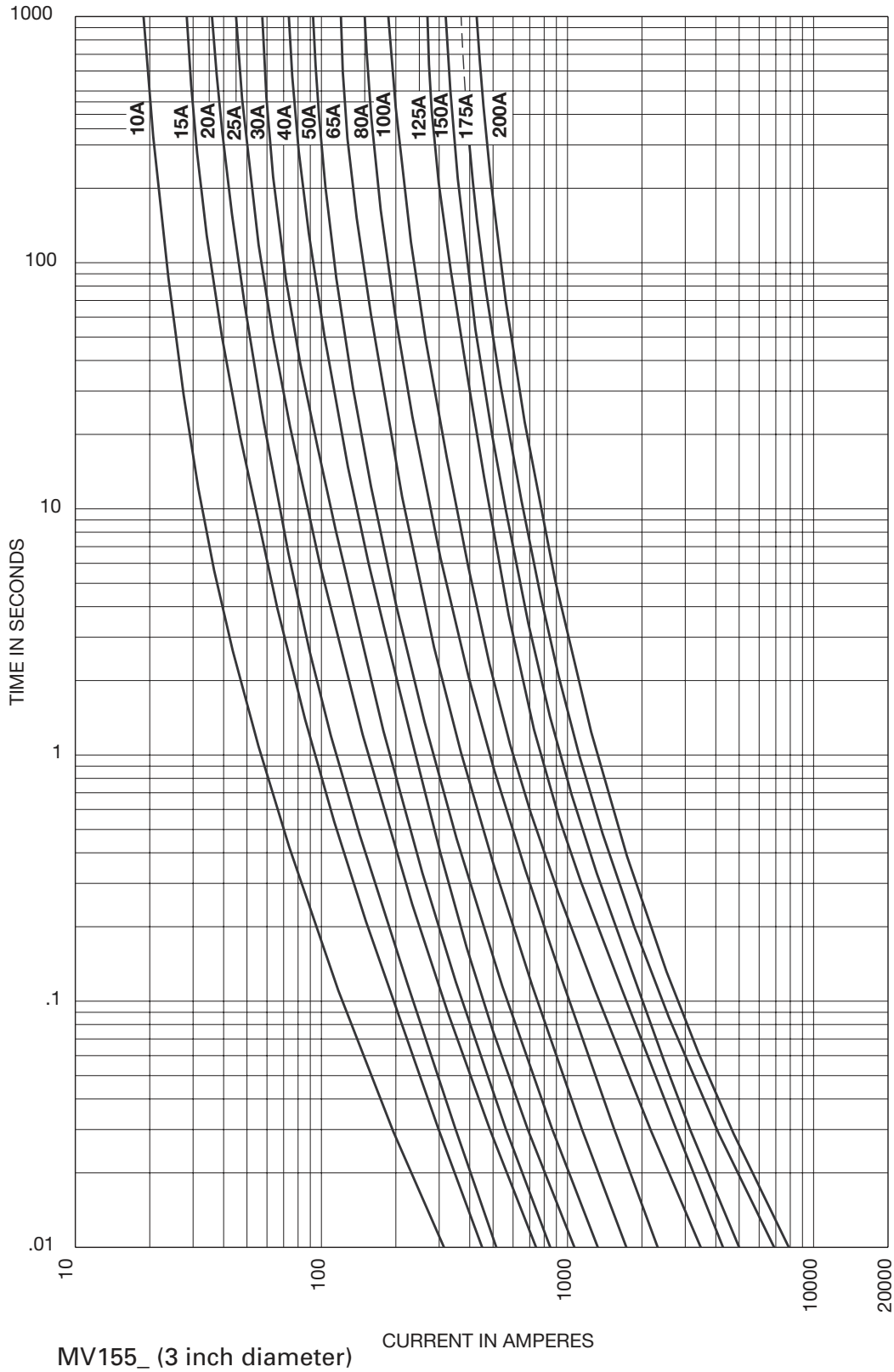
MV155_ (2 inch diameter)

15.5 kV time-current curves — total clear for MV155_ 2 inch diameter fuses



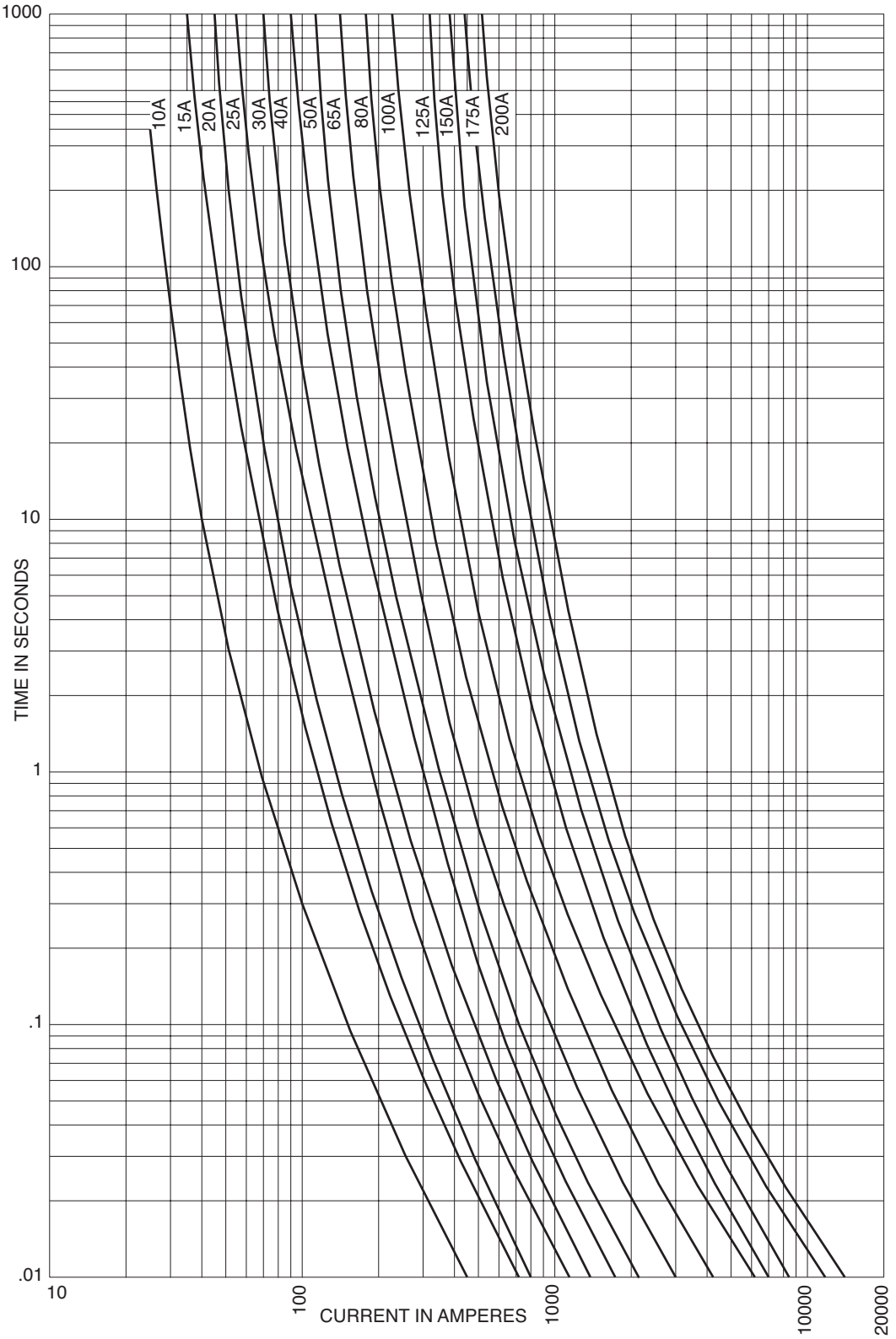
MV155_ (2 inch diameter)

15.5 kV time-current curves — minimum melt for MV155_ 3 inch diameter fuses



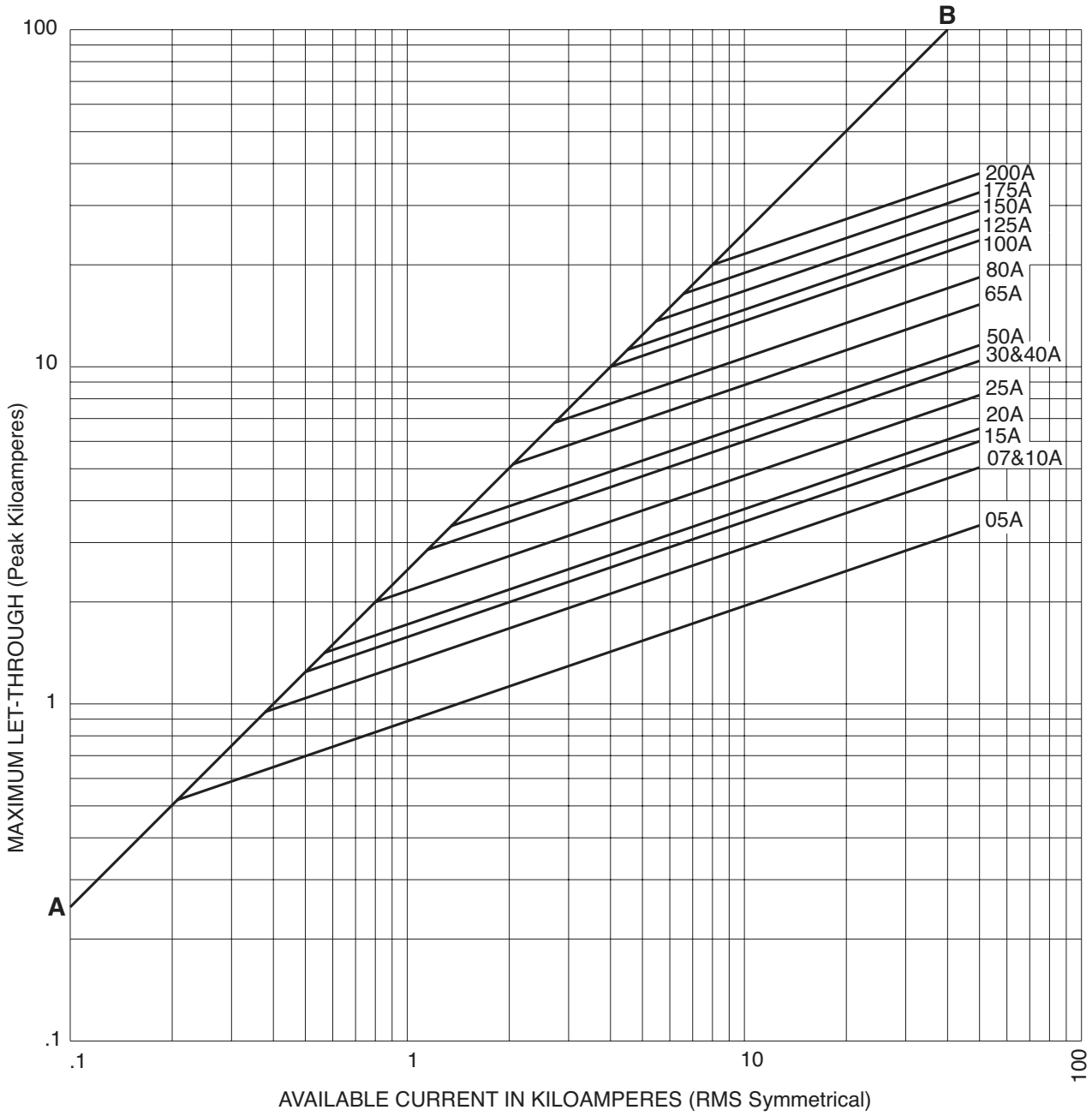
MV155_ (3 inch diameter)

15.5 kV time-current curves — total clear for MV155_ 3 inch diameter fuses



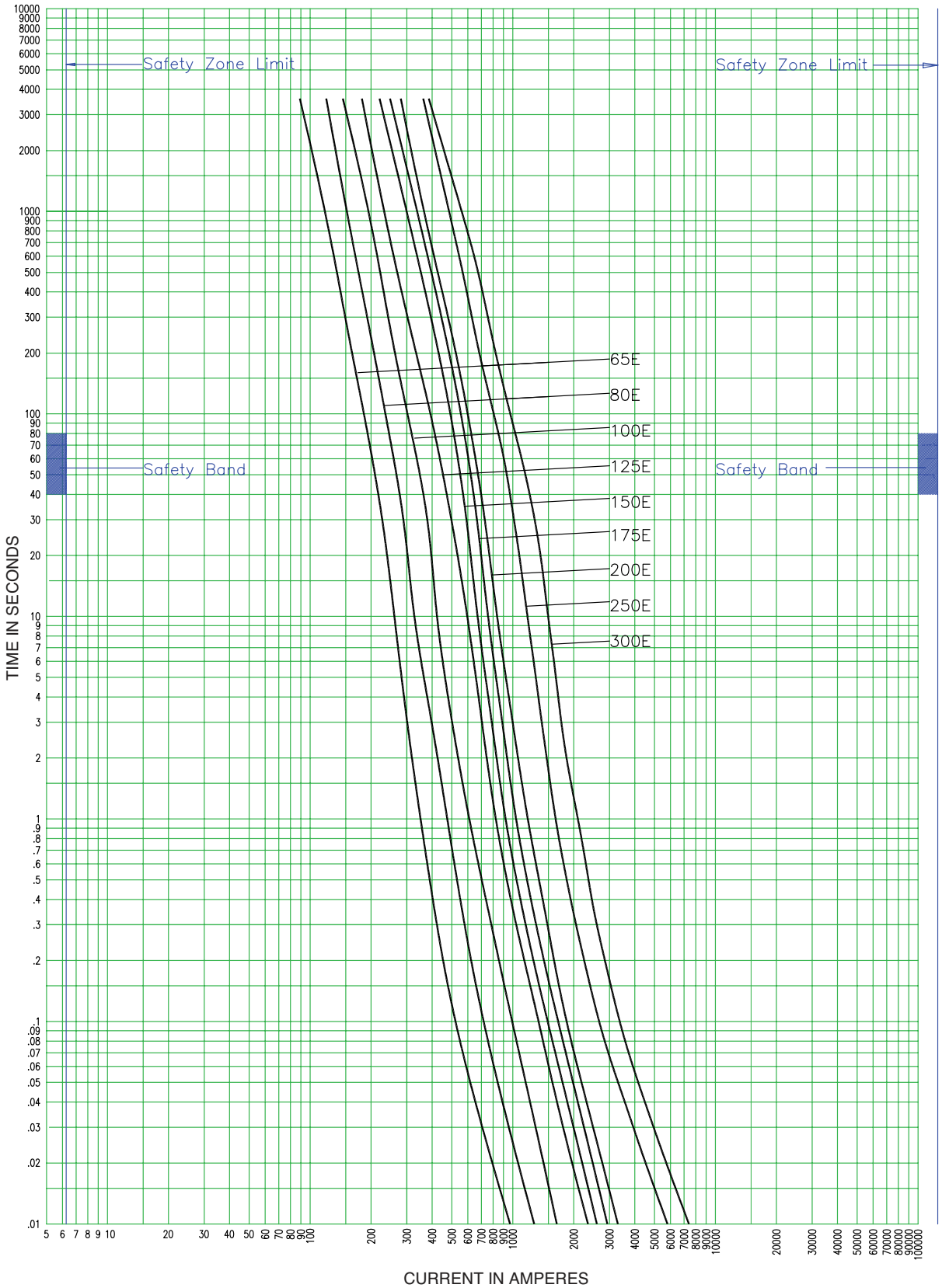
MV155_ (3 inch diameter)

15.5 kV peak let-through for MV155_ 2 and 3 inch diameter fuses



MV155_ (2 and 3 inch diameter)

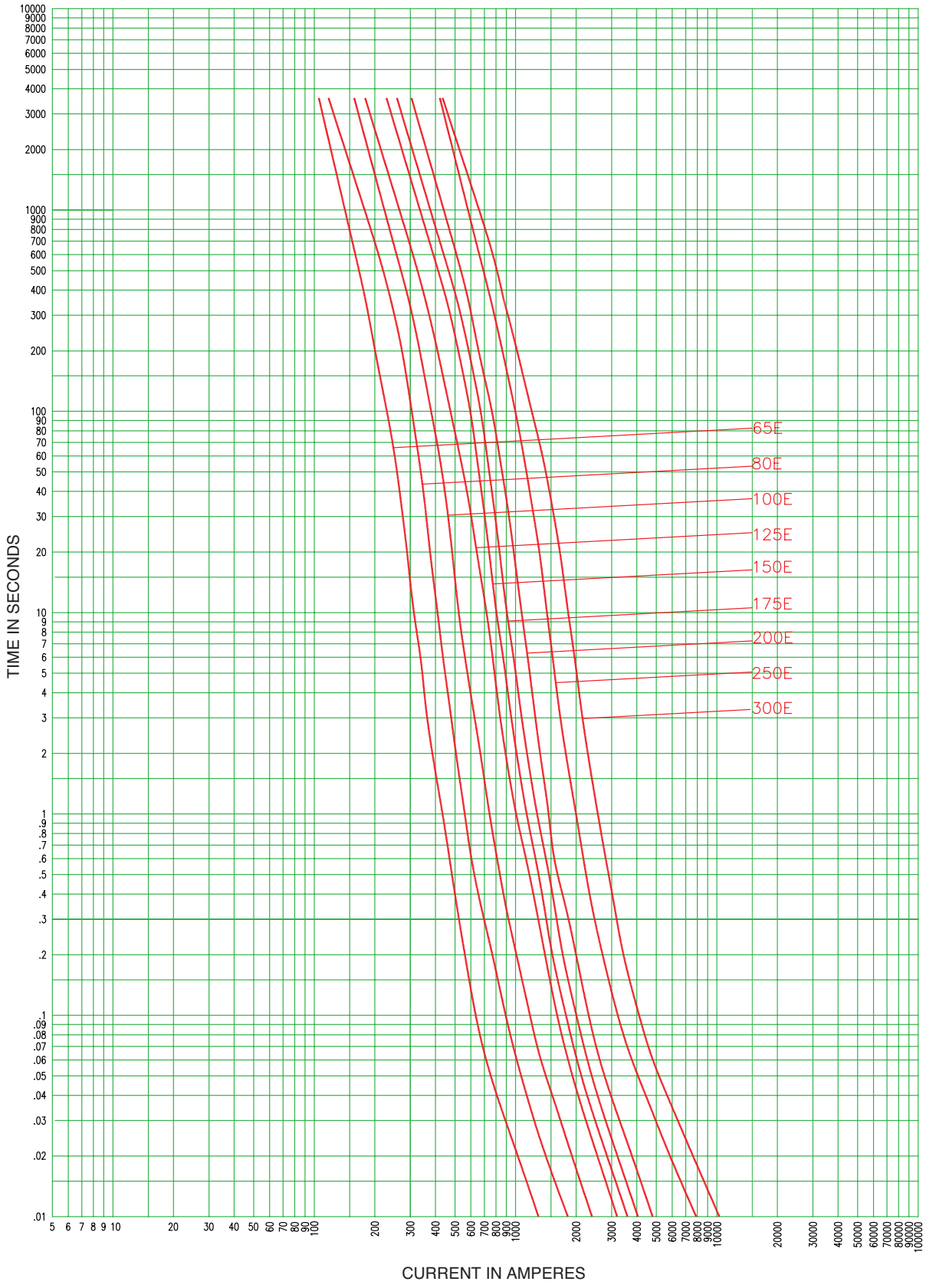
15.5 kV time-current curves — minimum melt for 15LHLE_ 3 inch diameter fuses



Curve TC66703203
April 2011

15LHLE_ (3 inch diameter)

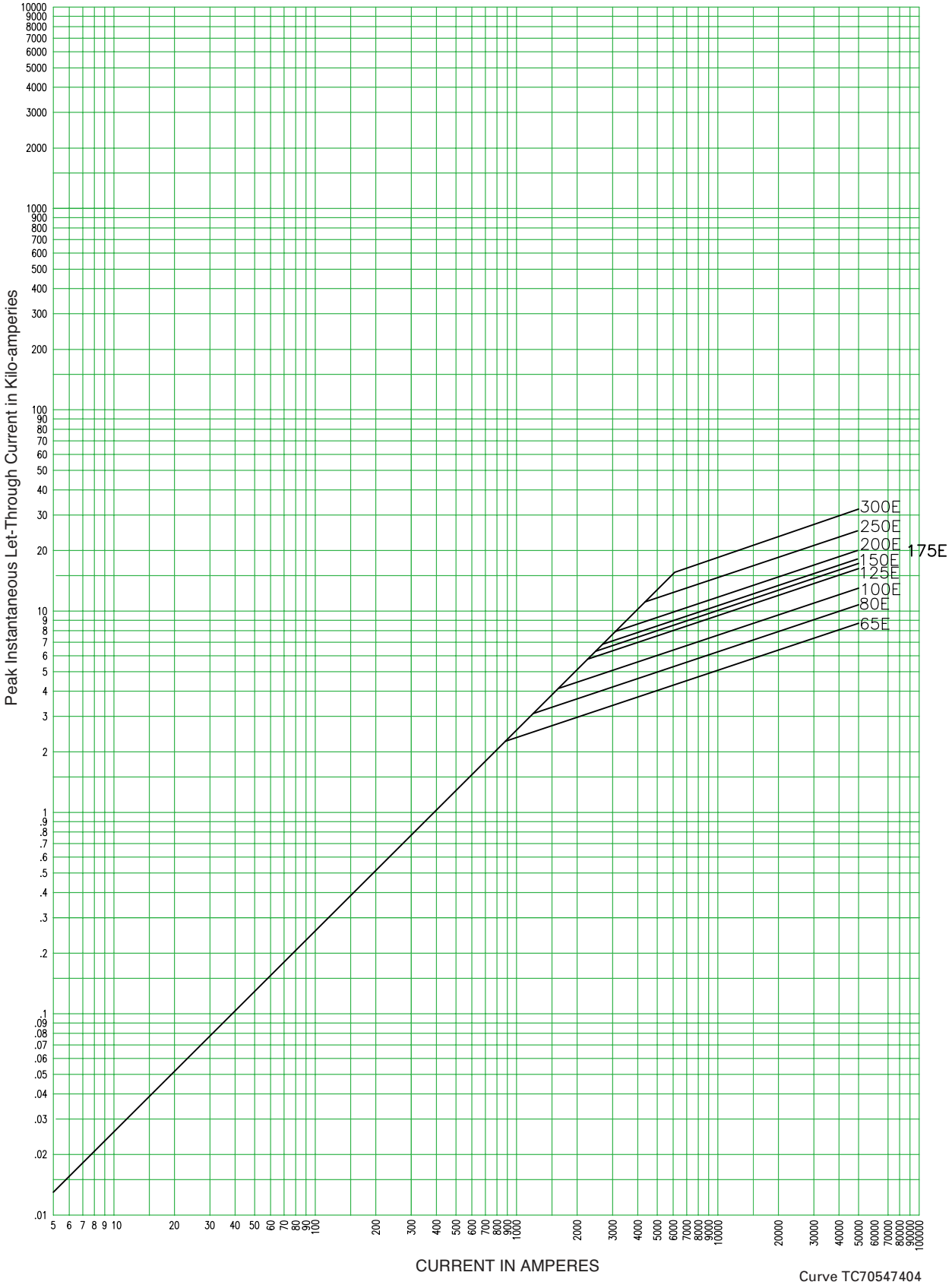
15.5 kV time-current curves — total clear for 15LHLE_ 3 inch diameter fuses



Curve TC66703303
April 2011

15LHLE_ (3 inch diameter)

15.5 kV peak let-through for 15LHLE_ 3 inch diameter fuses



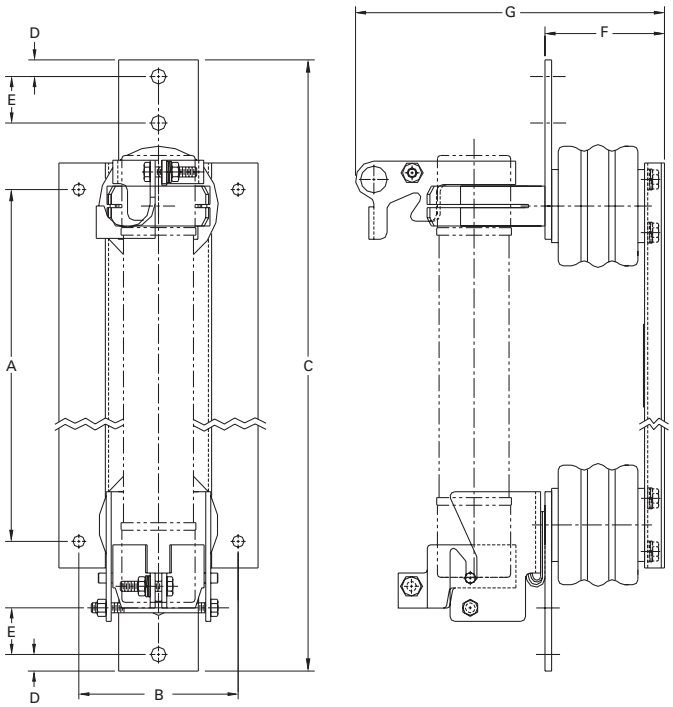
Curve TC70547404
April 2011

15LHLE_ (3 inch diameter)

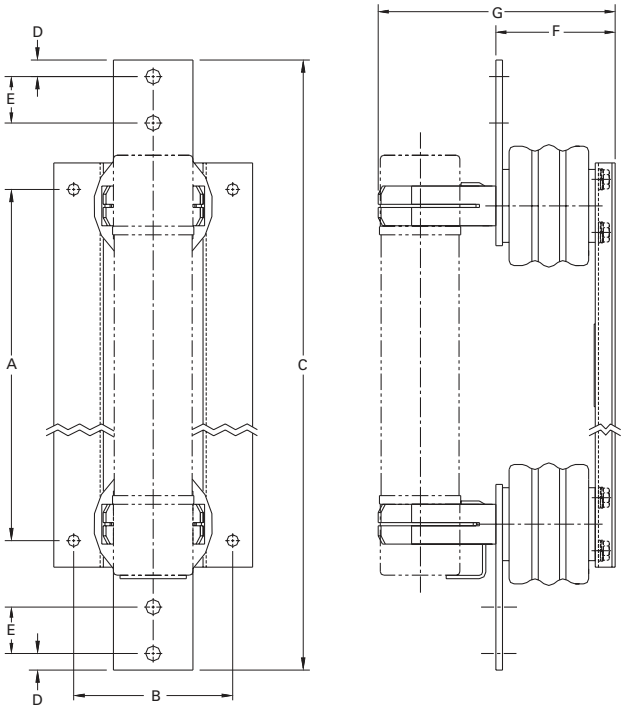
CLE and HLE type mountings - in (mm)

Catalog number	Hole centers		Overall length	Hole inset	Hole centers	Contact height	Overall height	BIL
	A	B	C	D	E	F	G	kV
Disconnect single barrel†								
15CLE-GDM-C	21.24 (539.5)	6 (152.4)	34 (863.6)	0.75 (19.0)	1.75 (44.4)	7 (177.8)	12.25 (311.1)	95
15CLE-GDM-D	21.15 (537.2)	6 (152.4)	31 (787.4)	0.62 (15.7)	1.75 (44.4)	7 (177.8)	14.22 (361.2)	95
15CLE-PDM-C	21.24 (539.5)	6 (152.4)	34 (863.6)	0.75 (19.0)	1.75 (44.4)	7 (177.8)	12.25 (311.1)	95
15CLE-PDM-D	21.15 (537.2)	6 (152.4)	31 (787.4)	0.62 (15.7)	1.75 (44.4)	7 (177.8)	14.22 (361.2)	95
15CLE-HPDM-C	21.24 (539.5)	6 (152.4)	34 (863.6)	0.75 (19.0)	1.75 (44.4)	8.5 (215.9)	13.75 (349.2)	110
15CLE-HPDM-D	21.15 (537.2)	6 (152.4)	31 (787.4)	0.62 (15.7)	1.75 (44.4)	8.5 (215.9)	15.72 (399.3)	110
15HLE-GDM-D	16.25 (412.8)	6 (152.4)	25 (647.7)	0.62 (15.7)	1.75 (44.4)	7 (177.8)	14.22 (361.2)	95
15HLE-PDM-D	16.25 (412.8)	6 (152.4)	25 (647.7)	0.62 (15.7)	1.75 (44.4)	7 (177.8)	14.22 (361.2)	95
Disconnect double barrel†								
15CLE-PDM-E	21.15 (537.2)	6 (152.4)	31 (787.4)	0.62 (15.7)	1.75 (44.4)	8.5 (215.9)	19.28 (489.7)	95
15HLE-GDM-E	16.25 (412.8)	6 (152.4)	25 (635)	0.62 (15.7)	1.75 (44.4)	7 (177.8)	17.78 (451.6)	95
15HLE-PDM-E	16.25 (412.8)	6 (152.4)	25 (635)	0.62 (15.7)	1.75 (44.4)	7 (177.8)	17.78 (451.6)	95
Non-disconnect single barrel								
15CLE-GNM-C	21.25 (539.7)	6 (152.4)	30.5 (774.7)	0.75 (19.0)	1.75 (44.4)	7 (177.8)	9.75 (247.6)	95
15CLE-PNM-C	21.25 (539.7)	6 (152.4)	30.5 (774.7)	0.75 (19.0)	1.75 (44.4)	7 (177.8)	9.75 (247.6)	95
15CLE-HPNM-C	21.25 (539.7)	6 (152.4)	30.5 (774.7)	0.75 (19.0)	1.75 (44.4)	8.5 (215.9)	11.25 (285.7)	110
15CLE-GNM-D	21.15 (539.7)	6 (152.4)	31 (787.4)	0.62 (15.7)	1.75 (44.4)	7 (177.8)	11.29 (286.7)	95
15CLE-PNM-D	21.15 (539.7)	6 (152.4)	31 (787.4)	0.62 (15.7)	1.75 (44.4)	7 (177.8)	11.29 (286.7)	95
15CLE-HPNM-D	21.15 (539.7)	6 (152.4)	31 (787.4)	0.62 (15.7)	1.75 (44.4)	8.5 (215.9)	12.79 (286.7)	110
15HLE-GNM-D	16.25 (412.7)	6 (152.4)	25 (635)	0.62 (15.7)	1.75 (44.4)	7 (177.8)	11.29 (286.7)	95
15HLE-PNM-D	16.25 (412.7)	6 (152.4)	25 (635)	0.62 (15.7)	1.75 (44.4)	7 (177.8)	11.29 (286.7)	95
Non-disconnect double barrel								
15CLE-PNM-E	21.15 (539.7)	6 (152.4)	31 (787.4)	0.62 (15.7)	1.75 (44.4)	8.5 (215.9)	14.98 (380.5)	95
15HLE-GNM-E	16.25 (412.7)	6 (152.4)	25 (635)	0.62 (15.7)	1.75 (44.4)	7 (177.8)	14.98 (380.5)	95
15HLE-PNM-E	16.25 (412.7)	6 (152.4)	25 (635)	0.62 (15.7)	1.75 (44.4)	7 (177.8)	14.98 (380.5)	95

CLE and HLE Type disconnect mounting†



CLE and HLE Type non-disconnect mounting



† Disconnect mountings provide a means for fuse extraction only. Do not use a disconnect mounting for load switching or fuse removal while energized.

E-Rated medium voltage specialty mount fuses

Catalog symbols:

- 15BHLE-_E (bolt-on version)
- 15HCL-_E (clip-lock version)

Ratings*:

- Volts — 15.5 kV
- Amps — 10 to 300 A
- Interrupting ratings — 50 to 63 kA RMS Sym

* See catalog number tables for voltages, ampacities and interrupting ratings by catalog number.

Agency information:

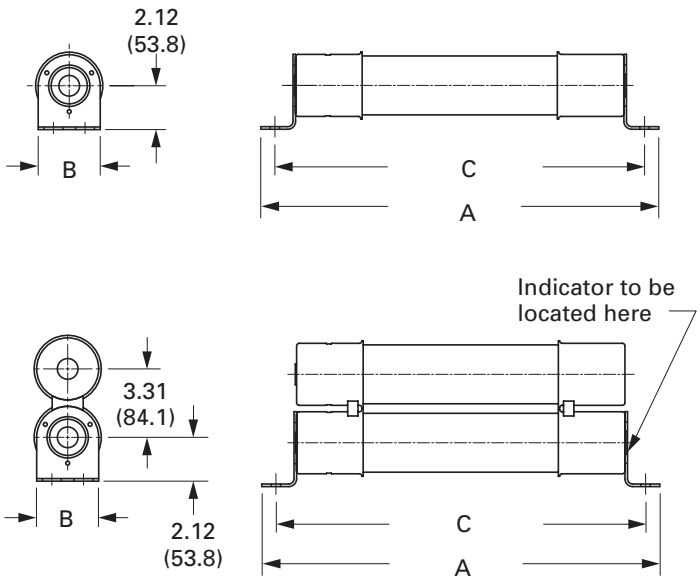
- E-Rated fuses meet the performance characteristics of ANSI C37.46

Recommended live parts for clip-lock fuses

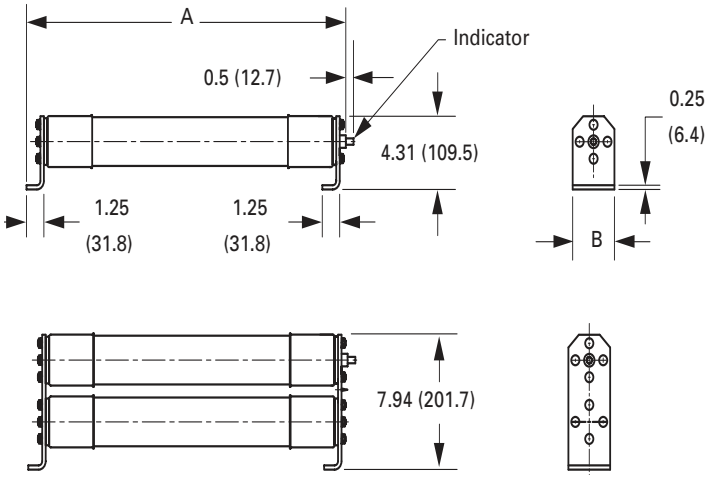
- Catalog number HCL-NL-1

Dimensions - in (mm)

BHLE



HCL

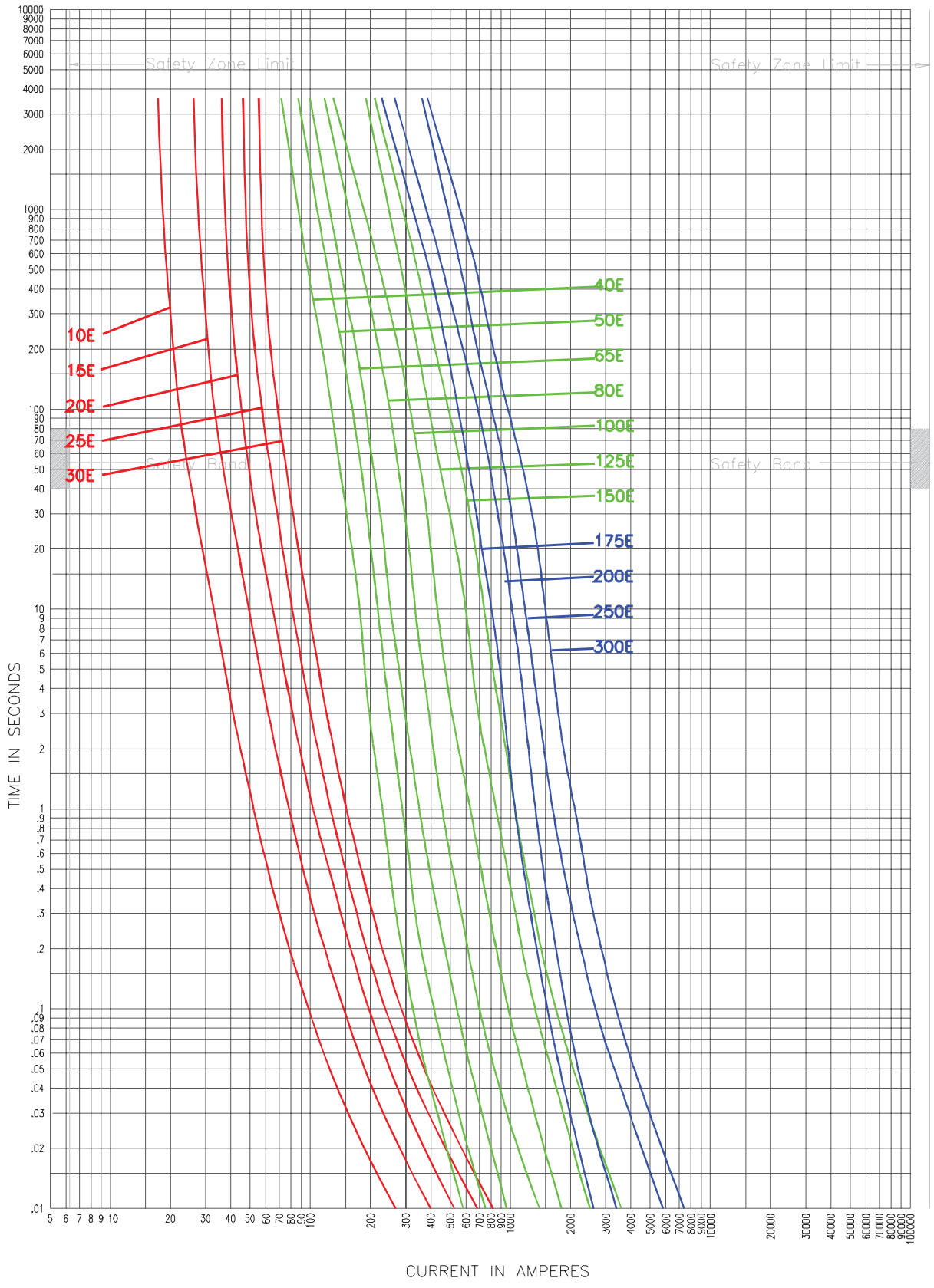


BHCL, BHLE and HCL type fuses

Amps	Dimensions — in (mm) Length A	Diameter B	Hole centers C	IR RMS Sym. (kA)	No. of barrels	Installation location	Catalog no.
BHCL and BHLE bolt-on							
10	22.2 (563)	3 (76)	20.9 (531)	63	1	Indoor/outdoor	15BHLE-10E
15							15BHLE-15E
20							15BHLE-20E
25							15BHLE-25E
30							15BHLE-30E
40							15BHLE-40E†
50							15BHLE-50E†
65							15BHLE-65E†
80							15BHLE-80E†
100					2		15BHLE-100E-D†
125							15BHLE-125E-D†
150							15BHLE-150E†
175							15BHLE-175E†
200							15BHLE-200E†
250							15BHLE-250E†
300	25.1 (637)		23.7 (602)	50		Indoor	15BHCL-300E
400					3	Indoor	15BHCL-400E
HCL clip-lock							
10	22.8 (579)	3 (76)	N/A	63	1	Indoor	15HCL-10E
15							15HCL-15E
20							15HCL-20E
25							15HCL-25E
30							15HCL-30E
40							15HCL-40E†
50							15HCL-50E†
65							15HCL-65E†
80							15HCL-80E†
100					2		15HCL-100E†
125							15HCL-125E-D†
150							15HCL-150E†
175							15HCL-175E†
200							15HCL-200E†
250							15HCL-250E†
300							15HCL-300E†

† UL Listed, Guide JEEG, File E240398.

15.5 kV time-current curves — minimum melt for 15CLE-_E and 15CLE-_-D



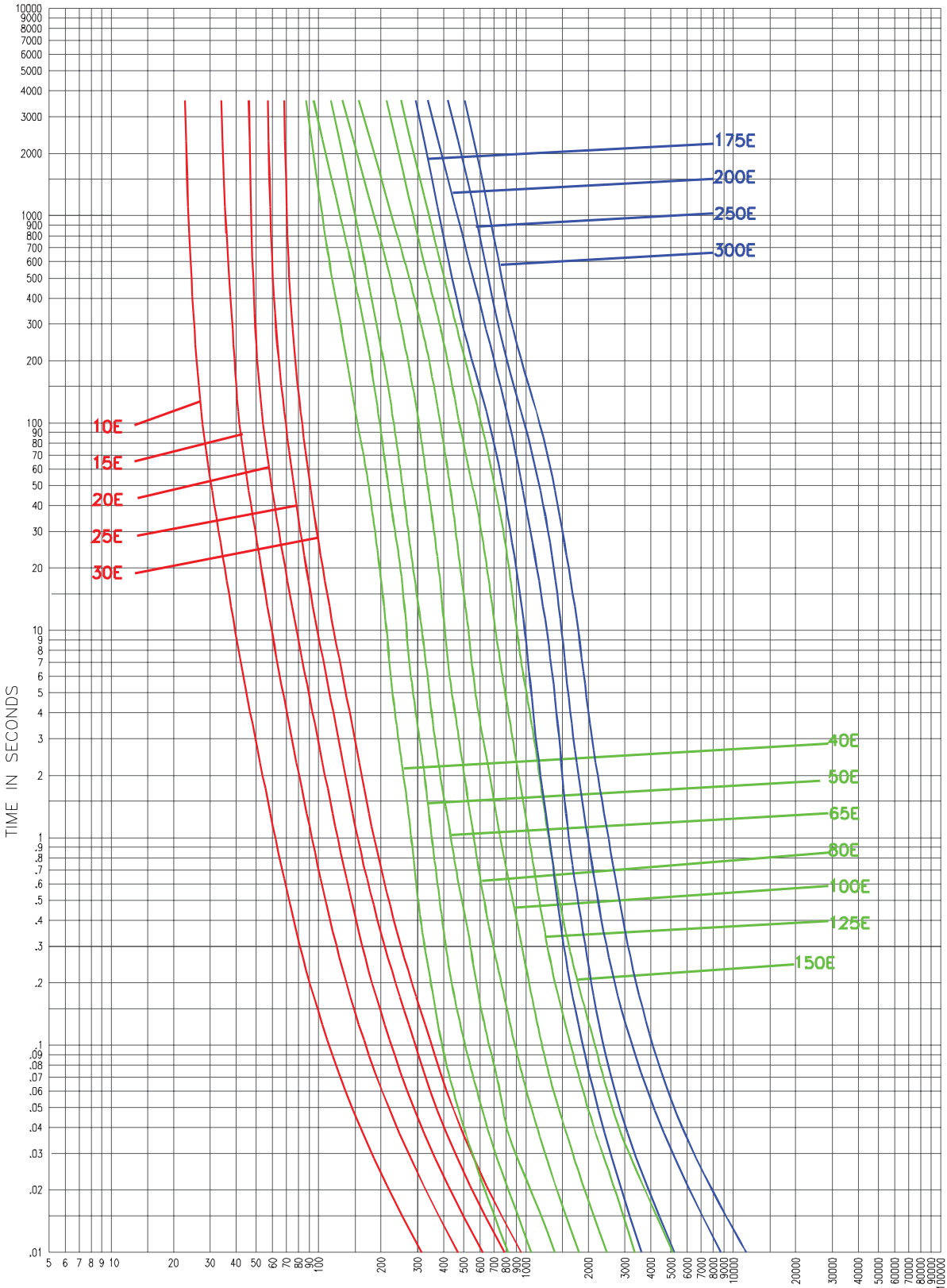
15CLE-_

Curve 70548501
April 16, 1999
Reference # 563532

Curve 70546801
April 1999
Reference # 705468

Curve 70547001
April 1999
Reference # 705470

15.5 kV time-current curves — total clear for 15CLE-_E and 15CLE-_-D



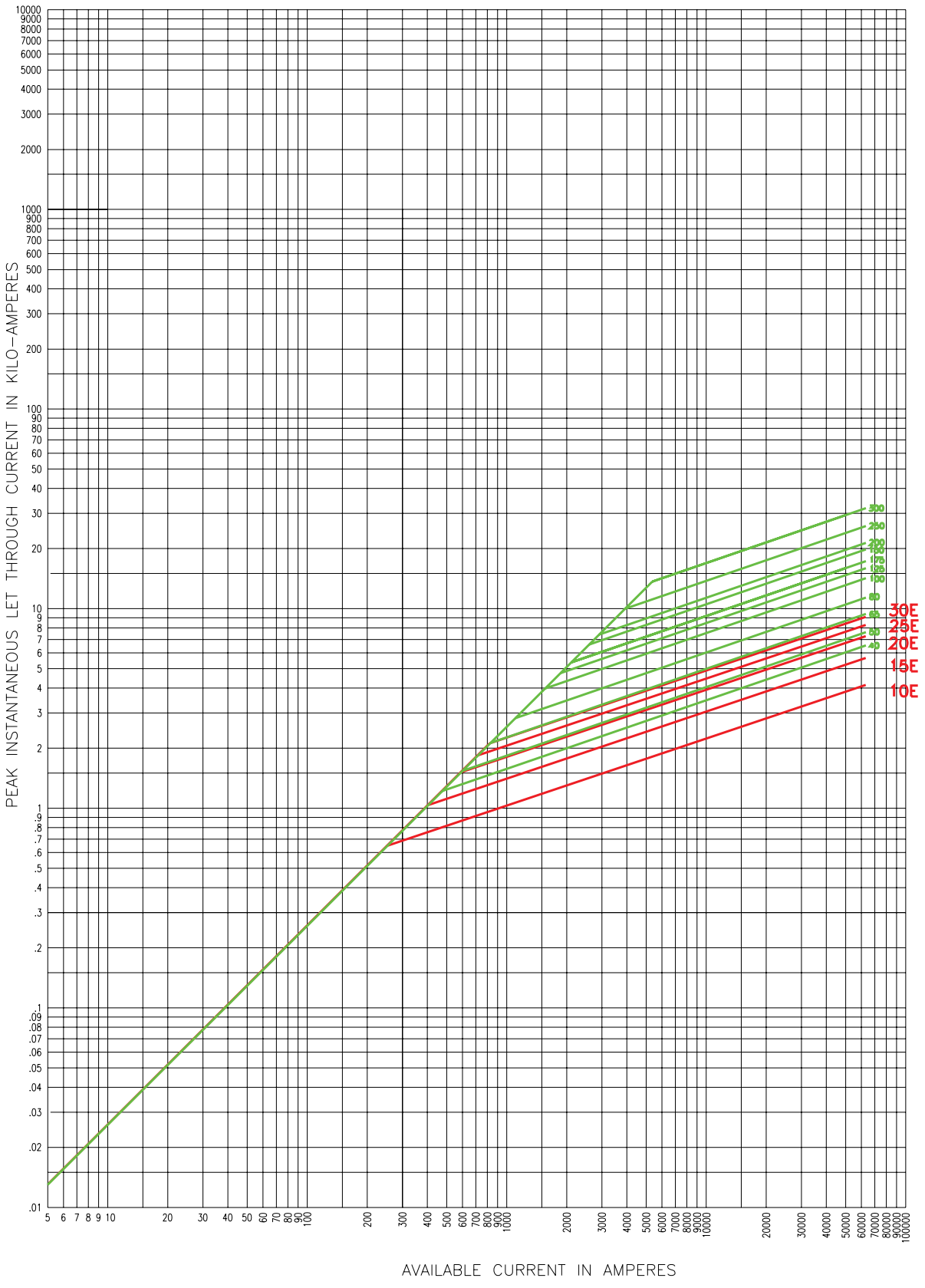
15CLE-_

Curve 70548601
April 16, 1999
Reference # 563533

Curve 70546901
April 1999
Reference # 705469

Curve 70547101
April 1999
Reference # 705471

15.5 kV peak let-through for 15CLE-_E and 15CLE-_-D

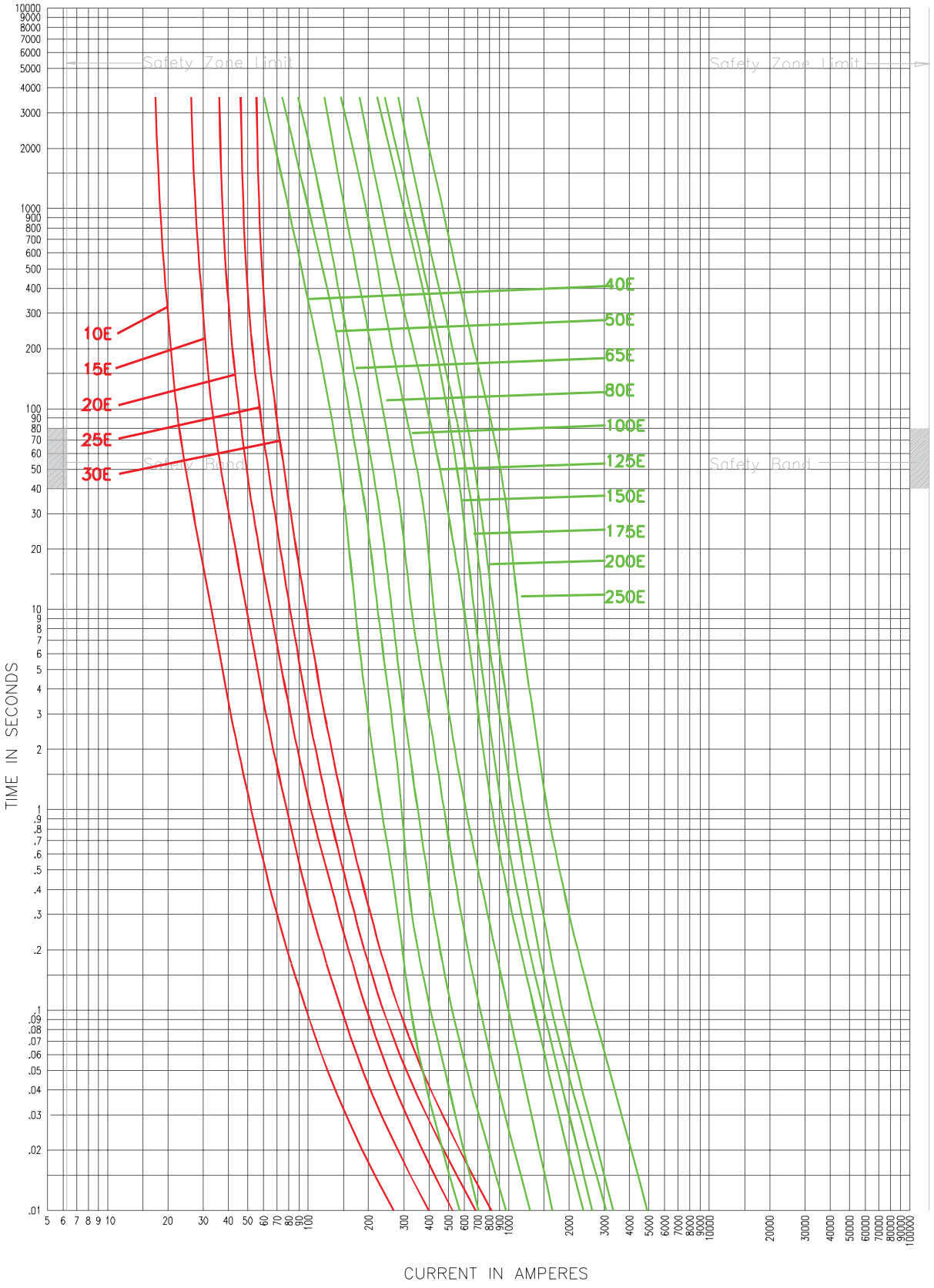


15CLE-_

Curve 70548802
September 1999
Reference # 705488

Curve 70547501
September 1999
Reference # 705475

15.5 kV time-current curves — minimum melt for 15HLE-_E and 15BHLE-_E

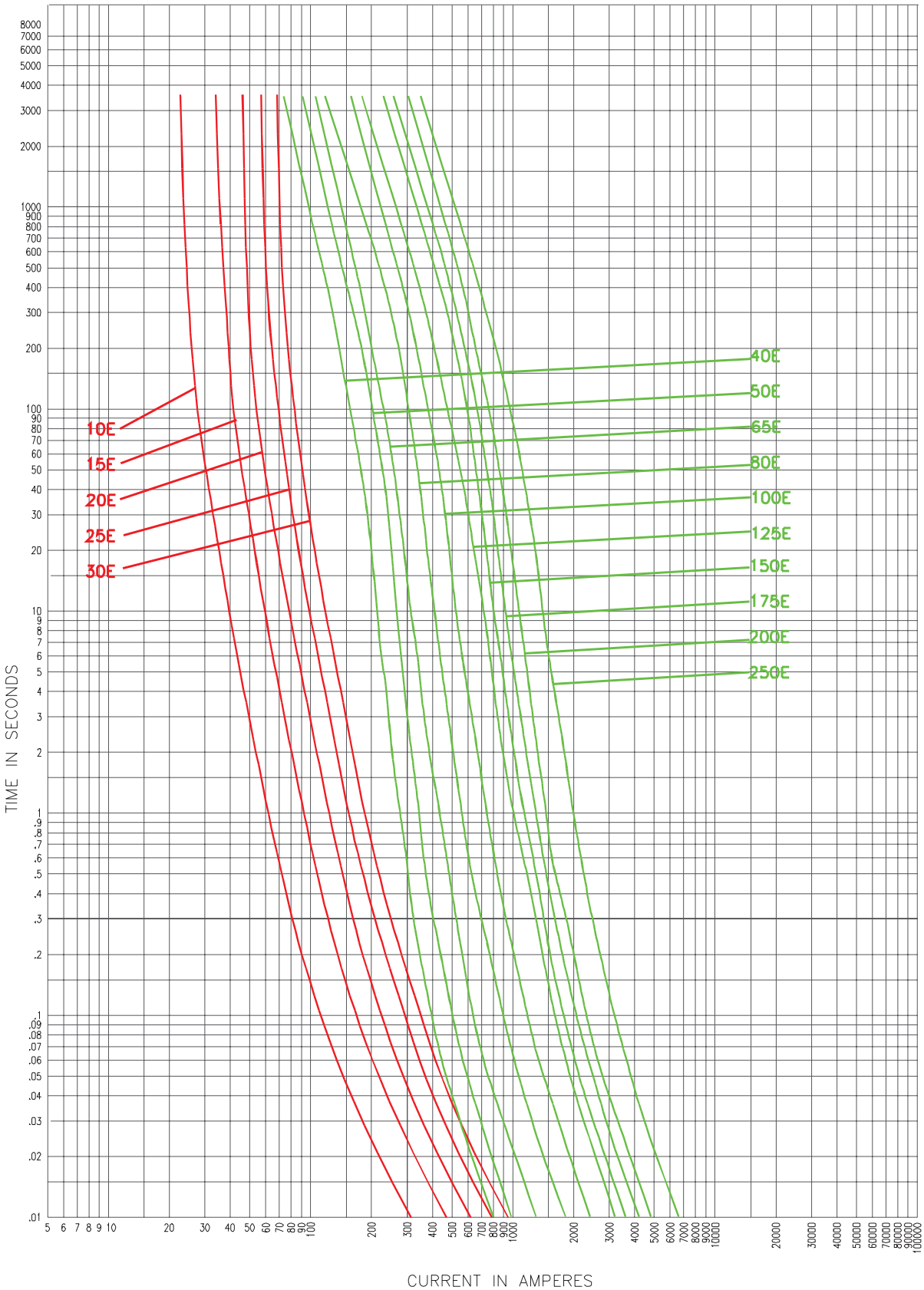


15HLE-_, 15BHLE-_

Curve 70548507
April 16, 1999
Reference # 563532

Curve 70546601
April 1999
Reference # 705466

15.5 kV time-current curves — total clear for 15HLE-_E and 15BHLE-_E

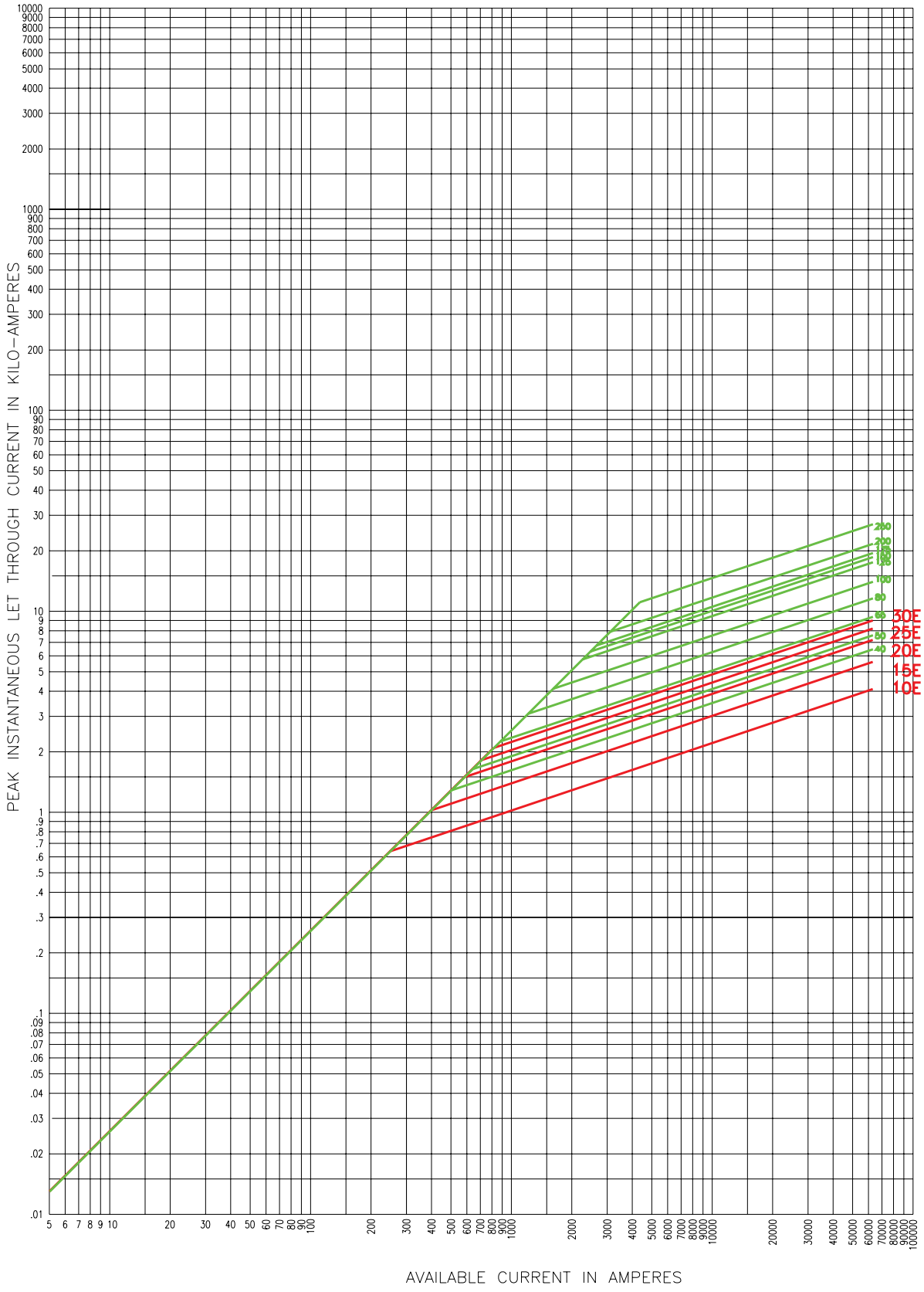


15HLE-_, 15BHLE-_

Curve 70548607
April 16, 1999
Reference # 563533

Curve 70546701
April 1999
Reference # 705467

15.5 kV peak let-through for 15HLE-_E and 15BHLE-_E

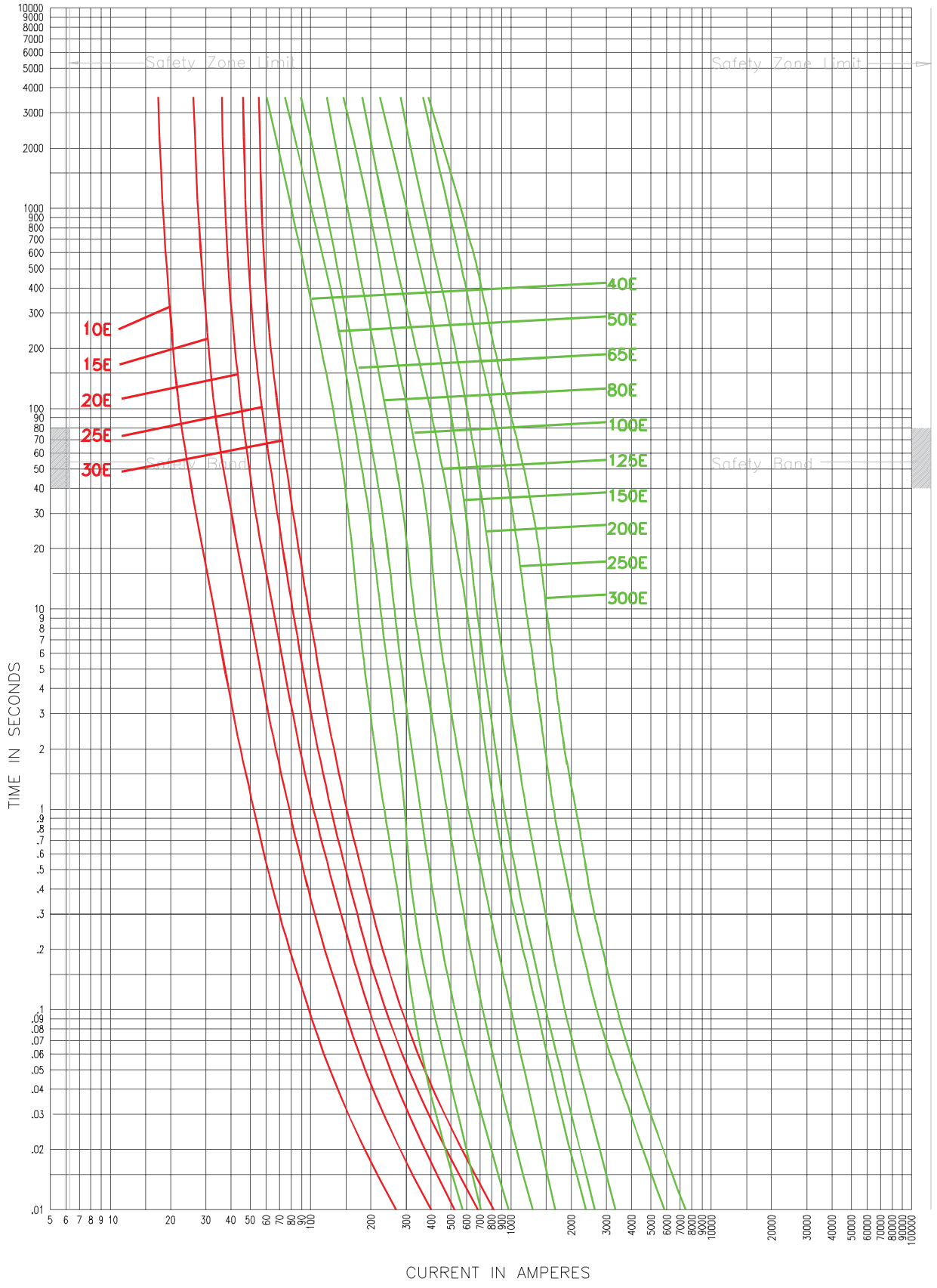


15HLE-_, 15BHLE-_

Curve 70548805
September 1999
Reference # 705488

Curve 70547401
September 1999
Reference # 705474

15.5 kV time-current curves — minimum melt for 15HCL-_E

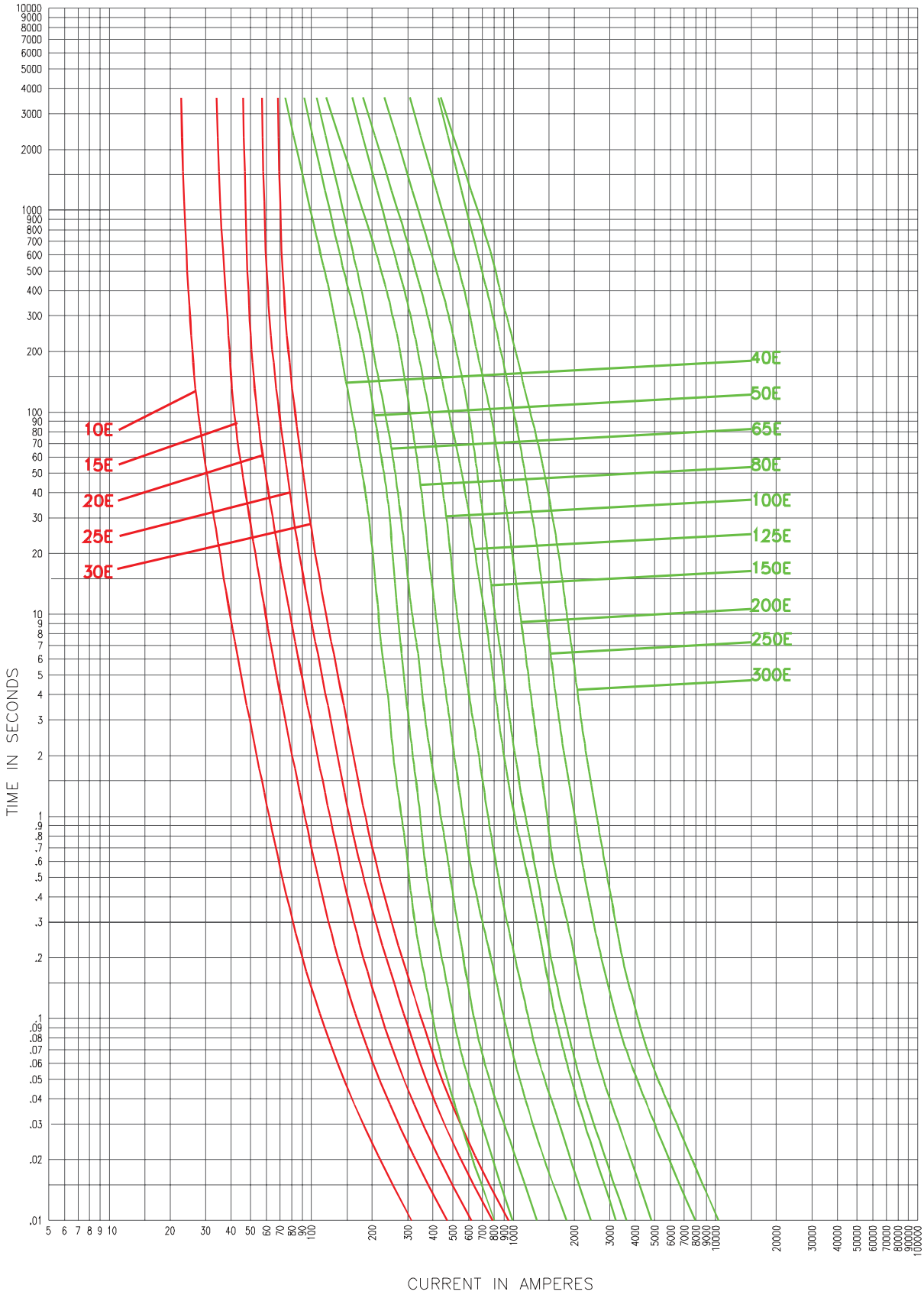


15HCL-_

Curve 70548503 Janaury 2001

Curve 66703201 January 2001

15.5 kV time-current curves — total clear for 15HCL-_E



15HCL-_

Curve 70548603
Janaury 2001

Curve 66703301
January 2001

15.5 kV peak let-through for 15HCL-_E

15HCL-_

Curve 70548803
Janaury 2001

Curve 70547402
Janaury 2001

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Publication No. 10353
November 2019

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