

# Low Voltage Products

## FuseLine HRC Fuse Links, gG and aM -types

Brochure OF 1 GB\_02\_04  
1SCC317001C0201



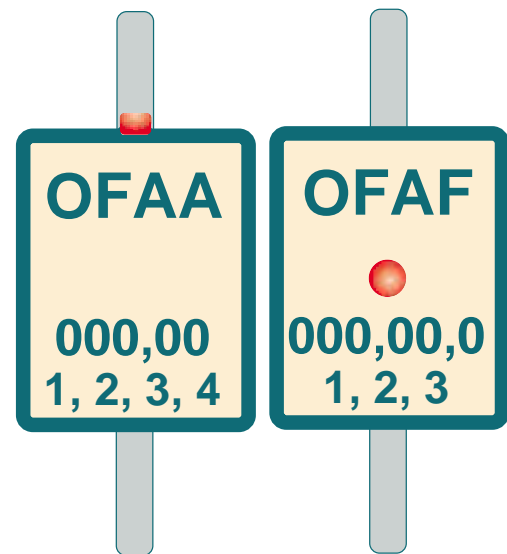
# Fuse Protection - Easy and

## gG -Fuse-Links for Overload and Short-Circuit

OFAA and OFAF fuse-links are designed to meet all the requirements of the modern industrial installations and electrical power plants. Their breaking capacity is sufficient even at the highest short-circuit levels. The breaking capacity of OFAA fuses is over 100 kA, when service voltage is the same as rated voltage (up to 690V) and frequency is 50 Hz.

**New: In OFAF -range the fuse sizes are: 000, 00, 0, 1, 2, 3, 4 and 4a, up to 500V.**

OFAA and OFAF-fuselinks include blown fuse indicator.



Blown fuse indicator

## aM -Fuse-Links for Short-Circuit Protection in Motor Circuits

aM fuse links provide reliable and fast short-circuit protection for motor circuit equipment and cables. Breaking capacity is 100 kA. Overload protection for motor circuit is provided with an overload relay and a contactor.

At high overload currents, the aM fuse link is faster than the gG fuse link, and at motor starting currents, the aM fuse link is slower than the gG fuse link. Rated voltage is 690 V for all fuse sizes.

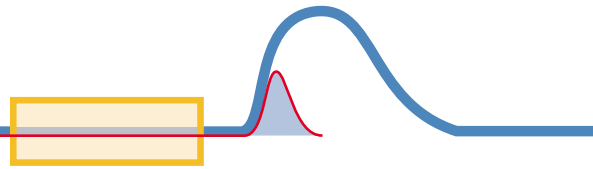
## How a Fuse-Link Limits Current

To prevent danger, and damage to equipment and circuits, short circuit currents need to be interrupted extremely quickly. It is generally the quick temperature rise generated within the short circuit current that causes equipment to breakdown.

Fuse links are designed to react to this temperature rise and, therefore, their current limiting capability is very good. Fuse links contain granulated quartz which binds the temperature generated in the arc created by short circuit. At the same time the pressure rises inside the fuse link and the fusing element ruptures.

# FuseLine

# Reliable



## Protection

**2-63A    2-100A    16-200A    160-315A    315-500A    500-800A**

**≤ 690V**

gG, up to 690V  
IEC-sizes: 000, 00, 1, 2, 3 and 4a

**2-100A    125-160A    6-250A    16-315A    35-400A    250-800A    400-1250A**

**≤ 500V**

gG, up to 500V  
IEC-sizes: 000, 00, 0, 1, 2, 3 and 4

**2-63A    2-160A    50-250A    125-400A    315-630/800A<sup>\*)</sup>**

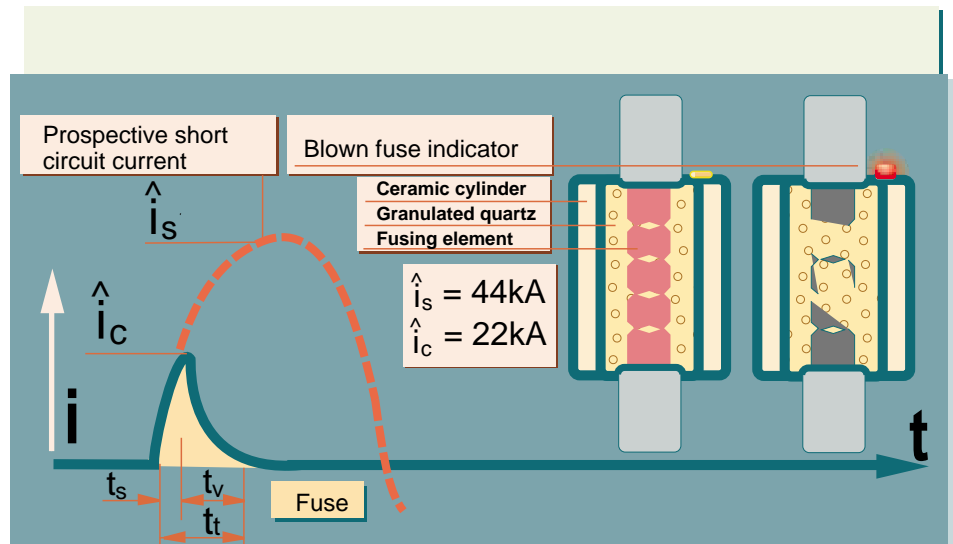
**≤ 690V**

aM, up to 690V  
IEC-sizes: 000, 00, 1, 2 and 3  
<sup>\*)</sup> 800 A = 500V

$$I^2 t_{\text{pre-arc}} = \int_0^{t_s} I^2 dt$$

$$I^2 t_{\text{total}} = \int_0^{t_t} I^2 dt$$

$t_s$  = melting time of fusing element  
 $t_v$  = arc time  
 $t_t$  = total operation time  
 $\hat{i}_c$  = current peak value limited by the fuse

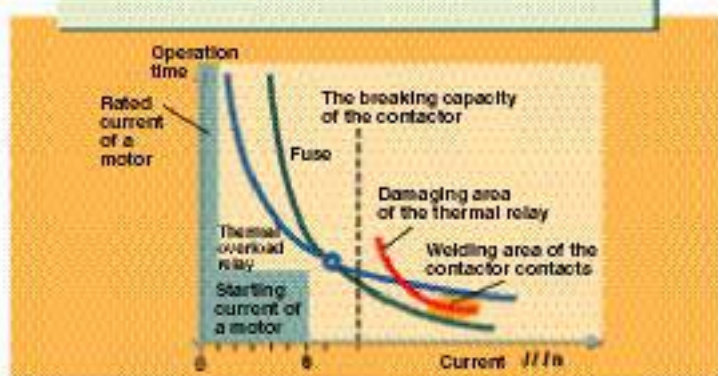


# Fuse Protection - Easy and

## Superior Current Limiting Capability

Fuse links have an excellent current limiting capability. With standard cable and apparatus dimensions the protection is assured for contactors and overload relays. The short-circuit capacity remains very small. Type 2 coordination states that all apparatus in the circuit must be in full operation after short-circuit. Fuse protection guarantees this without over dimensioning the apparatus.

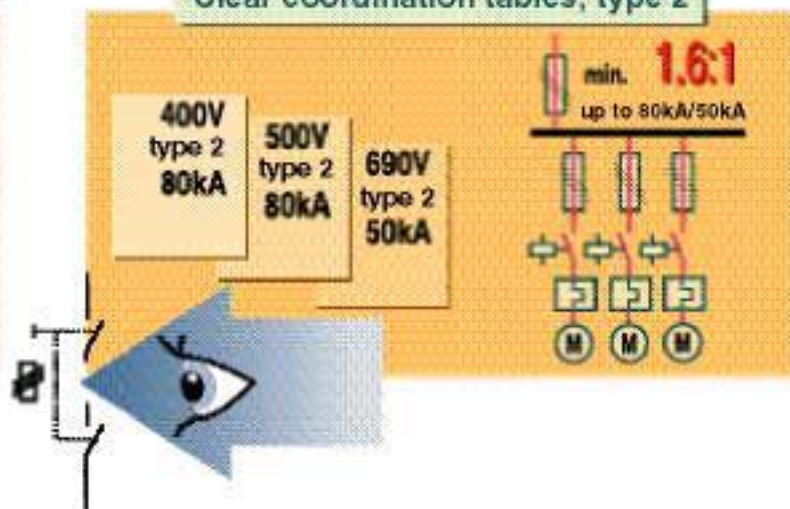
### Motor starter coordination



## Safe and Reliable

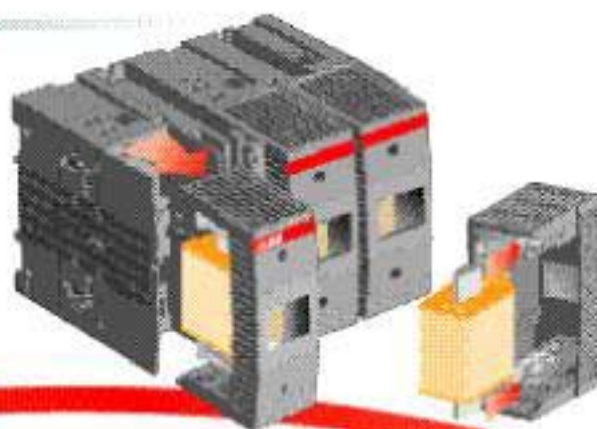
Visual inspection of a circuit clearly reveals when a fuse link has been removed. Thus, service and maintenance can be safely carried out. Fuses are tested according to IEC 60269 standard requirements. IEC 60947-4-1 type 2 coordination withstands up to 690 V.

### Clear coordination tables; type 2

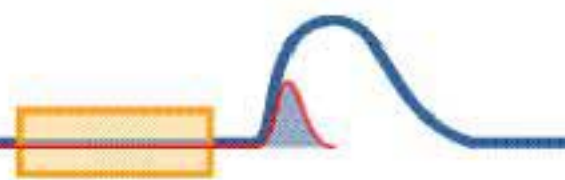


## Economical Installation

Life time costs of fuse systems are low. Fuse links which can withstand a high fault level and fault current are available at economical prices. After tripping, only the fuse-link has to be changed. Because the fuse links can be rapidly and easily replaced, plant down-time and maintenance is substantially reduced with a fuse link system.



# FuseLine



## Easy dimensioning

No need for calculation tools



Fuse links provide a simple procedure for selecting the right fuse type for your installation, without complicated calculations.

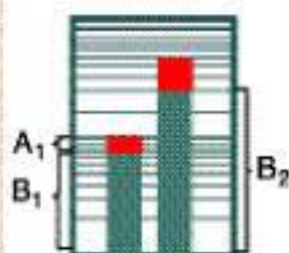
Selective protection is normally achieved by selecting fuses with the nominal current ratio 1,6:1.

Fuses prevent "blackouts". Only the fuse nearest a fault trips without upstream fuses (feeders or mains) being affected. Fuses thus provide selective coordination.

The selectivity, see the pictures below:

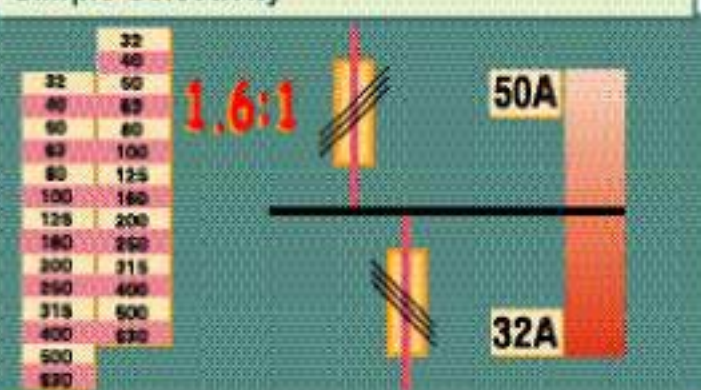
On the feeder side the  $I_{pre-arc}$  value (in the picture fuse size 160 A) has to be bigger than  $I_{pre-arc}$  on the load side (in the picture fuse size 100 A).

$I_{t}$ -values are on page 14 for OFAA- fuses and on page 22 for OFAM- fuses.

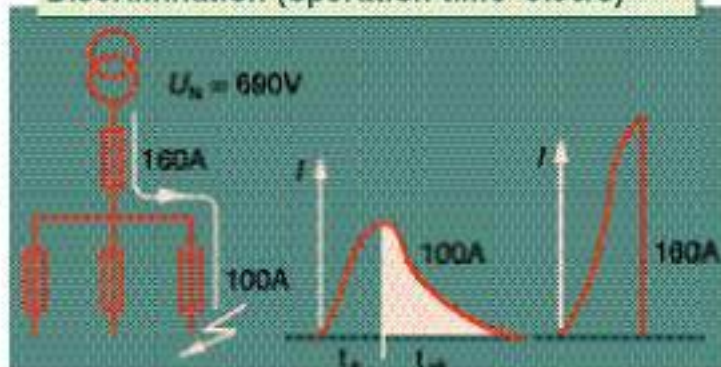


$$B_2 > A_1 + B_1$$

## Simple Selectivity



## Discrimination (operation time 0.05/s)



## Fuse monitor



The OFM fuse monitor provides a facility for an immediate tripping or/and indication option after a fuse blown, to prevent 2-phase motor loading. Suitable for all fuse links.

# Fuse Protection - Easy and

## Fuses are Key Components to Reliable Protection

A reliable protection is cost-effectively achieved with fuse links

Acc. to IEC 60947-4-1 standard regarding motor starters, certain coordination categories are defined to protection.

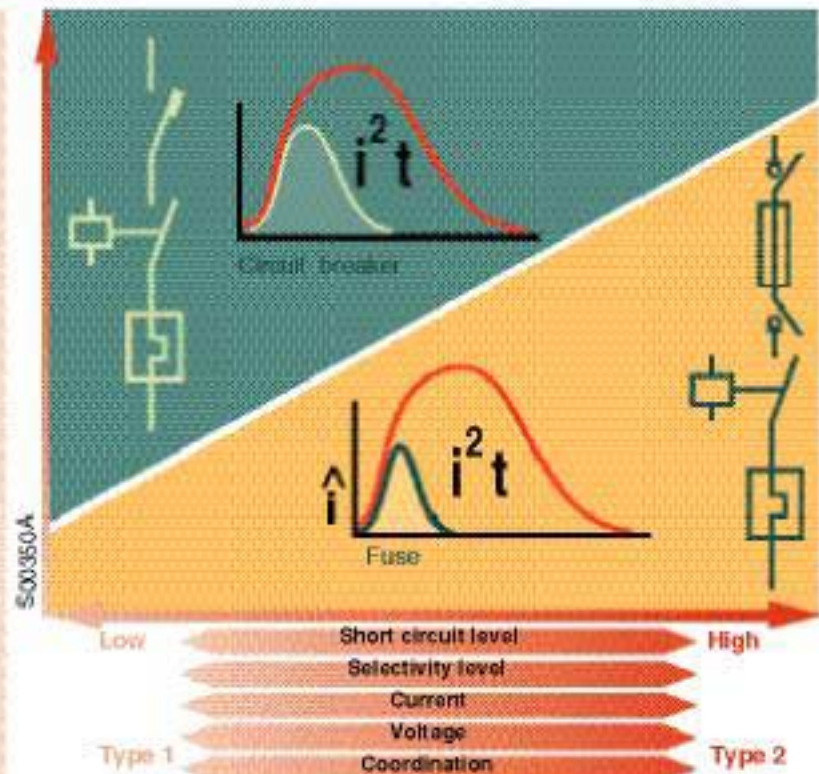
The fuse-links protect acc. to coordination type 2 category even at 690 V. Generally can be said that the higher voltages, the stronger fuse protection is.

### Coordination type 1:

In short-circuit conditions, the contactor or starter does not endanger person or installations and will not be able to then operate without being repaired or having parts replaced.

### Coordination type 2:

Guarantees that the starter is in full operation after short-circuit.



A reliable protection is cost-effectively achieved with fuse links.  
The higher voltages, the stronger fuse protection.

## Fuse links are designed for different environments:

### OFAA and OFAM fuses:

- Universal fuses for installations in normal conditions.
- Fuse links for harsher environments, industrial fuses, provided with an extra thick silver coating (20 µm).

### The letter indication according to fuse standard

The first letter shall indicate the breaking range:

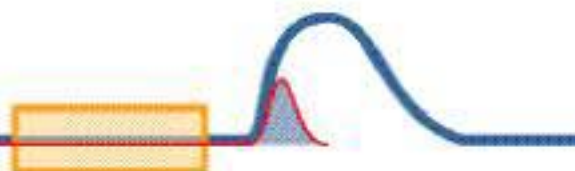
- g = full-range breaking-capacity fuse-links
- a = partial-range breaking-capacity fuse-links

The second letter shall indicate the utilization category; this letter defines with accuracy the time-current characteristics, conventional times and currents, g-categories:

- gG = indicates fuse-links with a full-range breaking capacity for general application
- aM = indicates fuse-links with a partial range breaking capacity for the protection of motor circuits

NOTE 1 - At present gG fuse-links are often used for the protection of motor circuits, which is possible when their characteristics are capable of withstanding the motor starting current.

# FuseLine

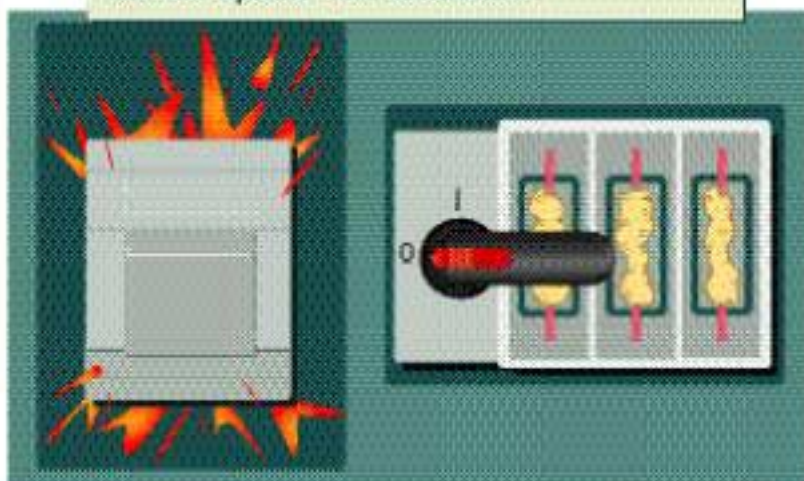


## Fuse-Link Operates Independently of Corrosion

Because the fusing elements operate in a cylinder, they are not affected by their surroundings. Thus their protecting characteristics remain unchanged year after year. Unlike circuit breakers, corrosion cannot damage the inside of the fuse link.

Fuse links do not need any arc space and do not give any emission. After tripping, only the fuse-links have to be changed.

No arc space - No emission



## Characteristics of short-circuit current

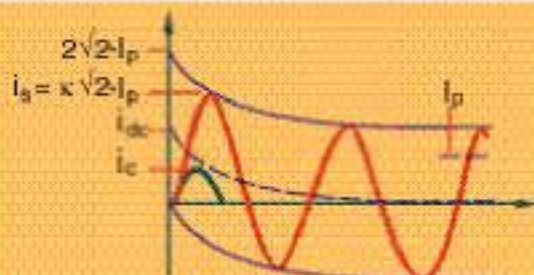
The initial value of the short-circuit current is called asymmetric short-circuit current  $i_a$ . The short-circuit current may also have a DC-component, whose quantity may be anything from zero to the maximum amplitude of the current. The quantity of the DC-component depends on the starting moment and its attenuation rate on the R/X ratio of the circuit. The maximum instantaneous value of the short-circuit current, i.e. the peak value or maximum asymmetric short-circuit current is  $i_{gmax}$ .

$$i_{gmax} = \kappa \sqrt{2} \cdot I_s$$

where  $I_s$  = r.m.s. short-circuit current = prospective short circuit current  $I_p$   
 $\kappa$  = impulse factor, depends on the R/X ratio

$$\kappa = 1,022 + 0,969 \cdot e^{-\frac{X,01R}{X}}$$

where R = resistance of the circuit  
 X = reactance of the circuit



The worst-case scenario for short-circuit current, when provided with a maximum voltage in this phase.



This factor depends on the ratio of circuit resistance to circuit inductance so that if the circuit is fully resistive,  $\cos\varphi = 1$  the factor  $\kappa = 1.07$ . If the circuit was fully inductive,  $\cos\varphi$  would be 0 and the factor  $\kappa$  would be 2. The impulse factor can also be read from the graph. The DC component attenuates according to the time constant.

$$\tau = X / 2\pi fR$$

The following approximation can normally be used for low voltage networks:

$\kappa = 1,44 \text{ eli } i_g = 2 \cdot I_s$ . This maximum instantaneous value must be used when calculating the mechanic forces of the short-circuit current.





# FuseLine

## HRC Fuse links

### gG-fuses, OFAA, OFAF

### aM-fuses, OFAA, OFAM

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### HRC Fuse links, gG-types, for overload and short circuit protection

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# FuseLine

## HRC Fuse links, type gG up to 690V

### Ordering information

gG  
690V

### HRC Fuse links , universal fuses, gG, up to 690V, sizes 000, 00, 1, 2, 3 and 4a

Type code includes one fuse link, but the delivery batch is 9 pcs (000), 30 pcs (00), 3 pcs (1-3) or 1 pc (4a) per package.

IEC-size	In [A]	Un [V]	Ph [W]	Type	Order number	Weight [kg]
000	2	690	3.9	OFAA 000 GG2	1SCA022661R8250	0.12
	4	690	1.5	OFAA 000 GG4	1SCA022661R8330	0.12
	6	690	1.6	OFAA 000 GG6	1SCA022661R8410	0.12
	10	690	1.1	OFAA 000 GG10	1SCA022661R8500	0.12
	16	690	1.8	OFAA 000 GG16	1SCA022661R8680	0.12
	20	690	2.4	OFAA 000 GG20	1SCA022661R8760	0.12
	25	690	2.4	OFAA 000 GG25	1SCA022661R8840	0.12
	32	690	2.7	OFAA 000 GG32	1SCA022661R8920	0.12
	40	690	3.4	OFAA 000 GG40	1SCA022661R9140	0.12
	50	690	3.9	OFAA 000 GG50	1SCA022661R9220	0.12
63	690	4.7	OFAA 000 GG63	1SCA022661R9310	0.12	
00	2	690	1.3	OFAA 00 H2	1SCA022041R3630	0.16
	4	690	1.4	OFAA 00 H4	1SCA022028R5700	0.16
	6	690	1.4	OFAA 00 H6	1SCA022007R3940	0.16
	10	690	2.7	OFAA 00 H10	1SCA022007R4080	0.16
	16	690	3.0	OFAA 00 H16	1SCA022007R4160	0.16
	20	690	3.2	OFAA 00 H20	1SCA022007R4240	0.16
	25	690	3.9	OFAA 00 H25	1SCA022007R4320	0.16
	32	690	4.5	OFAA 00 H32	1SCA022208R7050	0.16
	35	690	4.9	OFAA 00 H35	1SCA022007R4410	0.16
	40	690	5.3	OFAA 00 H40	1SCA022261R7200	0.16
	50	690	6.9	OFAA 00 H50	1SCA022007R4590	0.16
	63	690	8.6	OFAA 00 H63	1SCA022007R4670	0.16
	80	690	9.2	OFAA 00 H80	1SCA022007R4750	0.16
	100	690	9.6	OFAA 00 H100	1SCA022007R4830	0.16
125	500	10.6	OFAA 00 H125	1SCA022078R4290	0.16	
1	16	690	1.9	OFAA 1 H16	1SCA022023R9510	0.49
	20	690	3.1	OFAA 1 H20	1SCA022023R9690	0.49
	25	690	3.9	OFAA 1 H25	1SCA022023R9770	0.49
	32	690	4.6	OFAA 1 H32	1SCA022197R1420	0.49
	35	690	5.0	OFAA 1 H35	1SCA022007R4910	0.49
	40	690	6.3	OFAA 1 H40	1SCA022197R1690	0.49
	50	690	7.1	OFAA 1 H50	1SCA022007R5050	0.49
	63	690	8.5	OFAA 1 H63	1SCA022007R5130	0.49
	80	690	9.4	OFAA 1 H80	1SCA022007R5210	0.49
	100	690	14.0	OFAA 1 H100	1SCA022007R5300	0.49
	125	690	19.0	OFAA 1 H125	1SCA022007R5480	0.49
	160	690	20.0	OFAA 1 H160	1SCA022007R5560	0.49
	200	690	22.5	OFAA 1 H200	1SCA022007R5640	0.49
250	500	23.0	OFAA 1 H250	1SCA022007R5720	0.49	
2	160	690	21.0	OFAA 2 H160	1SCA022007R5810	0.67
	200	690	23.0	OFAA 2 H200	1SCA022007R5990	0.67
	250	690	25.5	OFAA 2 H250	1SCA022007R6020	0.67
	315	690	31.5	OFAA 2 H315	1SCA022007R6110	0.67
	400	500	34.0	OFAA 2 H400	1SCA022007R6290	0.67
3	315	690	30.5	OFAA 3 H315	1SCA022007R6370	0.97
	400	690	41.5	OFAA 3 H400	1SCA022007R6450	0.97
	500	690	45.0	OFAA 3 H500	1SCA022007R6530	0.97
	630	500	48.0	OFAA 3 H630	1SCA022007R6610	0.97
4a	500A	690	33	OFAA 4A GG500	1SCA022660R9770	2.0
	630A	690	43	OFAA 4A GG630	1SCA022660R9850	2.0
	800A	690	58	OFAA 4A GG800	1SCA022660R9930	2.0



# FuseLine

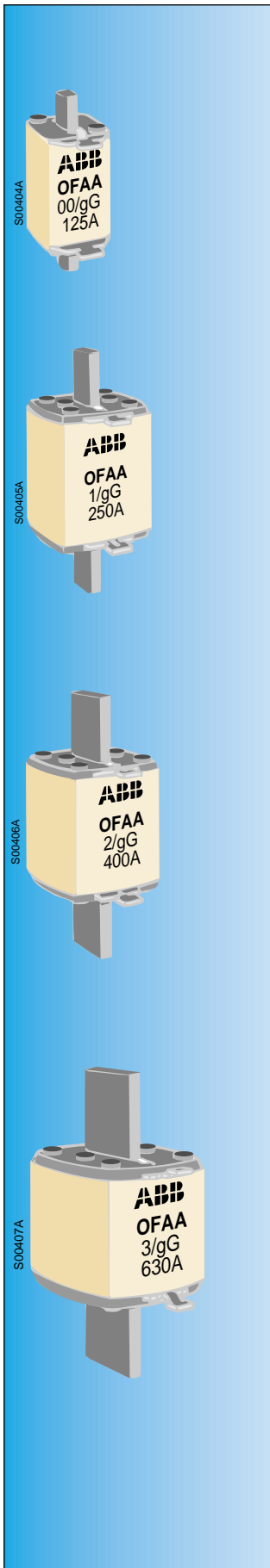
## HRC Fuse links, type gG up to 690V

### Ordering information

gG  
690V

### HRC Fuse links, industrial fuses, gG, up to 690V, sizes 00, 1, 2 and 3

Industrial fuses with 20 µm silver coating. The type code includes one fuse link, but the delivery batch is 30 pcs (00) or 3 pcs (1-3) per package.



IEC-size	In [A]	Un [V]	Ph [W]	Type	Order number	Weight [kg]
00	2	690	1.3	OFAA 00 H2-H20	1SCA022297R0150	0.16
	4	690	1.4	OFAA 00 H4-H20	1SCA022297R1120	0.16
	6	690	1.4	OFAA 00 H6-H20	1SCA022297R1710	0.16
	10	690	2.7	OFAA 00 H10-H20	1SCA022296R9310	0.16
	16	690	3.0	OFAA 00 H16-H20	1SCA022296R9900	0.16
	20	690	3.2	OFAA 00 H20-H20	1SCA022297R0310	0.16
	25	690	3.9	OFAA 00 H25-H20	1SCA022297R0580	0.16
	32	690	4.5	OFAA 00 H32-H20	1SCA022297R0740	0.16
	35	690	4.9	OFAA 00 H35-H20	1SCA022297R0910	0.16
	40	690	5.3	OFAA 00 H40-H20	1SCA022297R1390	0.16
	50	690	6.9	OFAA 00 H50-H20	1SCA022297R1550	0.16
	63	690	8.6	OFAA 00 H63-H20	1SCA022297R1980	0.16
	80	690	9.2	OFAA 00 H80-H20	1SCA022297R2100	0.16
	100	690	9.6	OFAA 00 H100-H20	1SCA022296R9570	0.16
125	500	10.6	OFAA 00 H125-H20	1SCA022296R9730	0.16	
1	16	690	1.9	OFAA 1 H16-H20	1SCA022297R2950	0.49
	20	690	3.1	OFAA 1 H20-H20	1SCA022297R3330	0.49
	25	690	3.9	OFAA 1 H25-H20	1SCA022297R3760	0.49
	32	690	4.6	OFAA 1 H32-H20	1SCA022297R4140	0.49
	35	690	5.0	OFAA 1 H35-H20	1SCA022297R4310	0.49
	40	690	6.3	OFAA 1 H40-H20	1SCA022297R4570	0.49
	50	690	7.1	OFAA 1 H50-H20	1SCA022297R4730	0.49
	63	690	8.5	OFAA 1 H63-H20	1SCA022299R4410	0.49
	80	690	9.4	OFAA 1 H80-H20	1SCA022299R4680	0.49
	100	690	14.0	OFAA 1 H100-H20	1SCA022297R2520	0.49
	125	690	19	OFAA 1 H125-H20	1SCA022297R2790	0.49
	160	690	20	OFAA 1 H160-H20	1SCA022297R3170	0.49
	200	690	22.5	OFAA 1 H200-H20	1SCA022297R3500	0.49
	250	500	23.0	OFAA 1 H250-H20	1SCA022297R3920	0.49
2	160	690	21.0	OFAA 2 H160-H20	1SCA022299R4840	0.67
	200	690	23.0	OFAA 2 H200-H20	1SCA022299R5060	0.67
	250	690	25.5	OFAA 2 H250-H20	1SCA022299R5220	0.67
	315	690	31.5	OFAA 2 H315-H20	1SCA022299R5490	0.67
	400	500	34.0	OFAA 2 H400-H20	1SCA022299R5650	0.67
3	315	690	30.5	OFAA 3 H315-H20	1SCA022299R5810	0.97
	400	690	41.5	OFAA 3 H400-H20	1SCA022299R6030	0.97
	500	690	45.0	OFAA 3 H500-H20	1SCA022299R6200	0.97
	630	500	48.0	OFAA 3 H630-H20	1SCA022299R6460	0.97



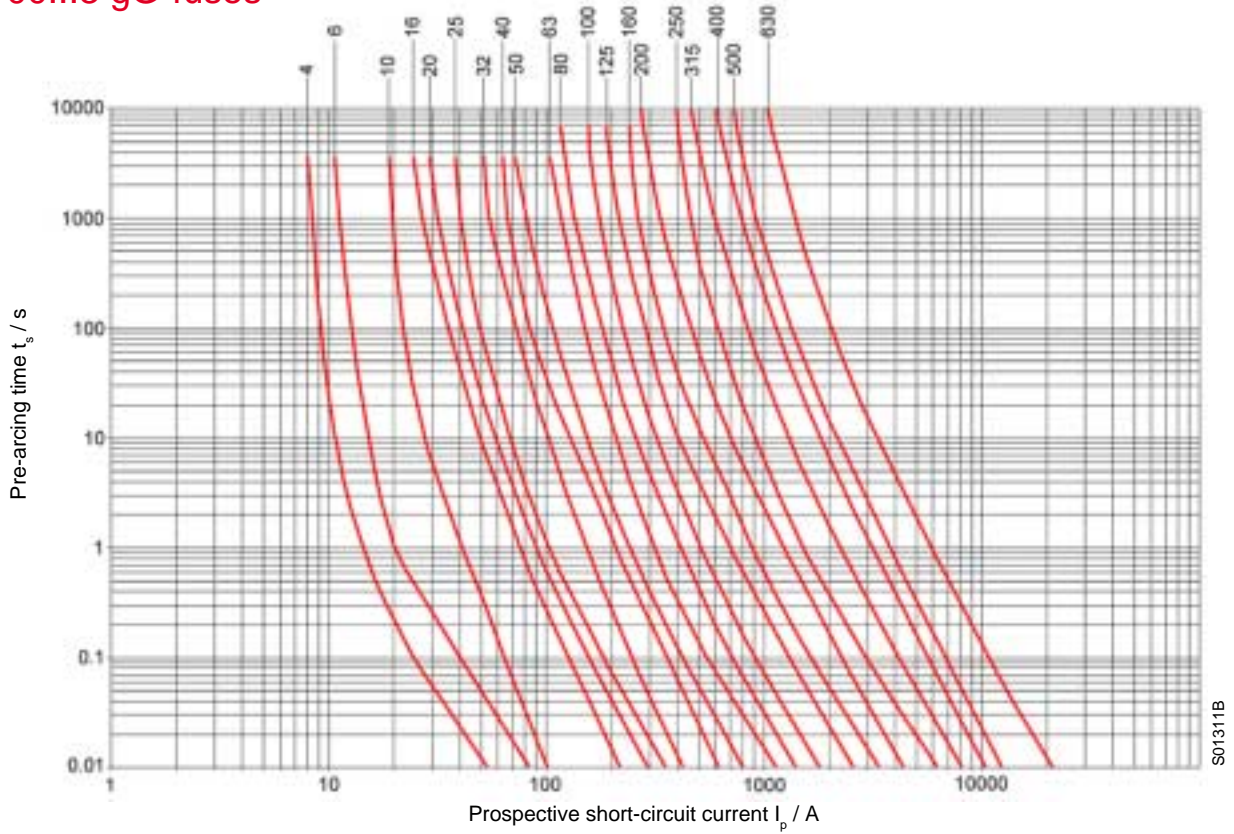
**FuseLine**  
**HRC Fuse links, type gG, up to 690V**  
 Time-current characteristics

**gG**  
**690V**

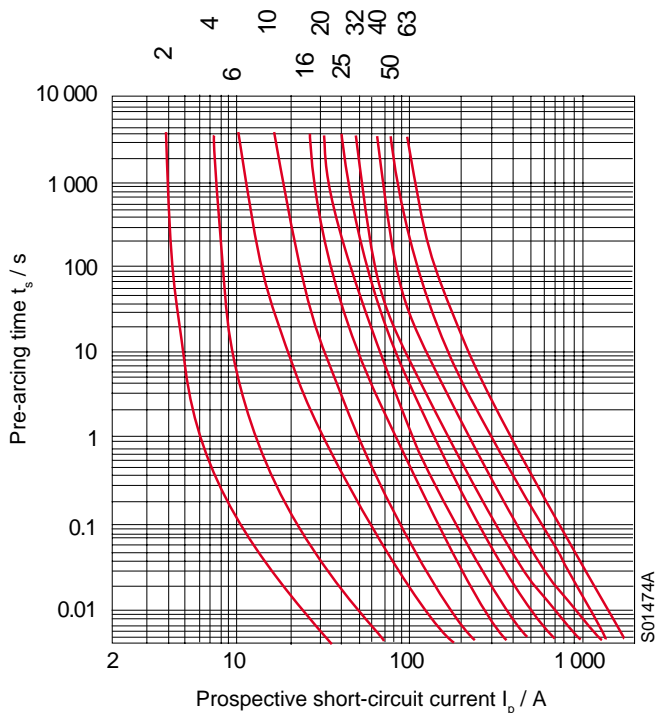
**OFAA -fuses, time-current characteristics**

Values are valid also for industrial fuses OFAA\_-H20.

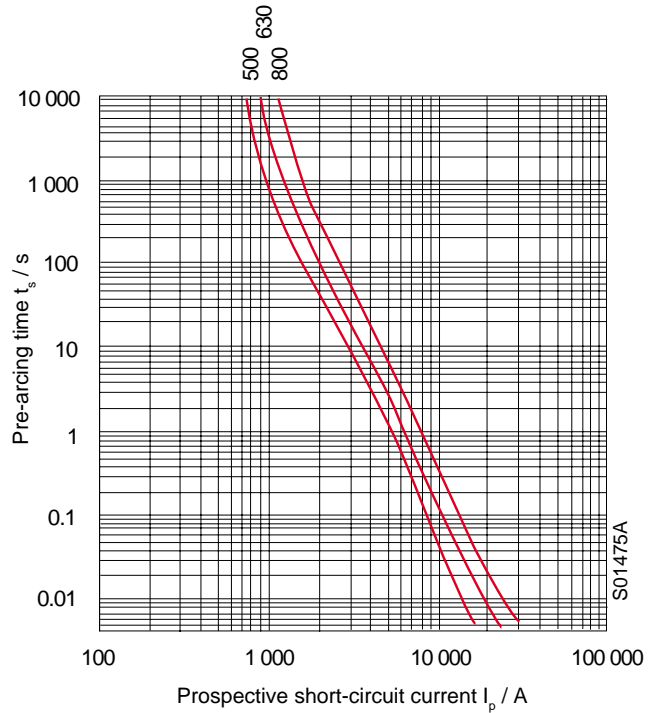
**OFAA 00...3 gG-fuses**



**OFAA 000 gG-fuses**



**OFAA 4a gG-fuses**



# FuseLine

## HRC Fuse links, type gG, up to 690V

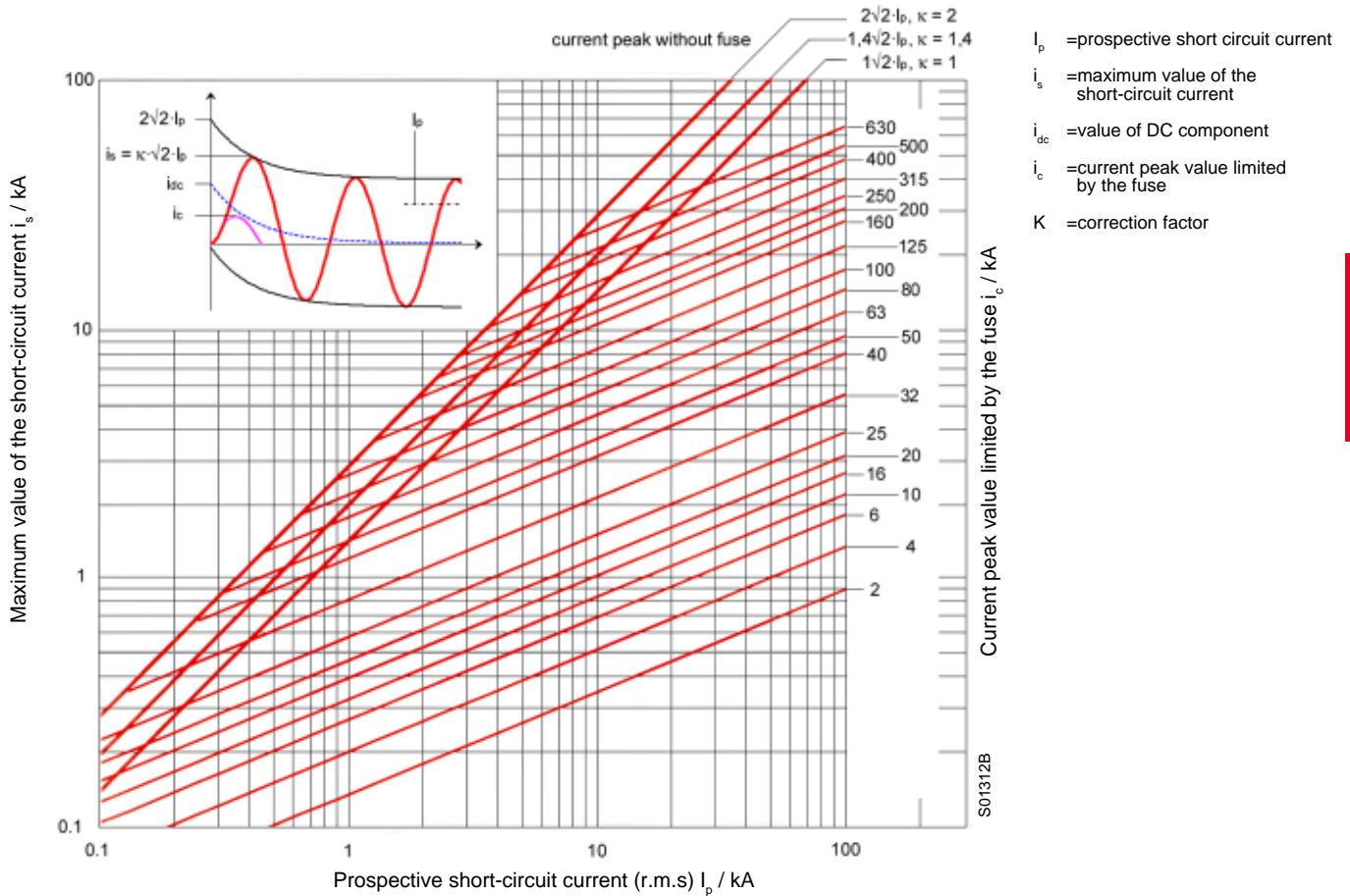
### Current limitation

gG  
690V

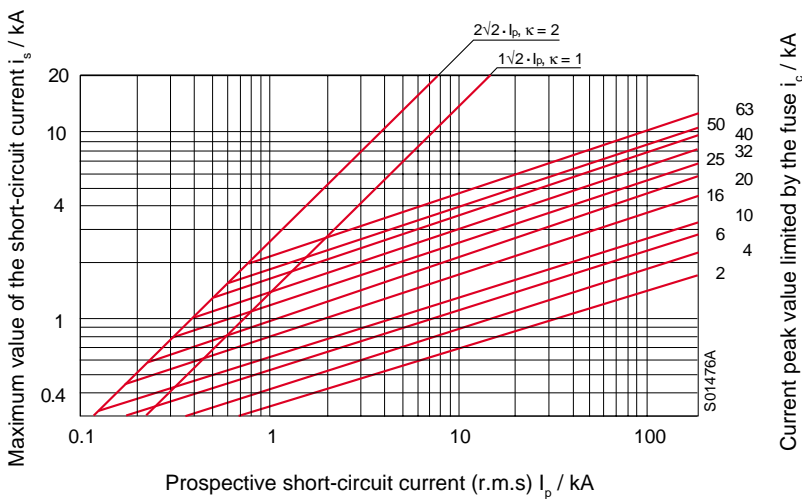
### OFAA -fuses, current limitation

Values are valid also for industrial fuses OFAA\_-H20.

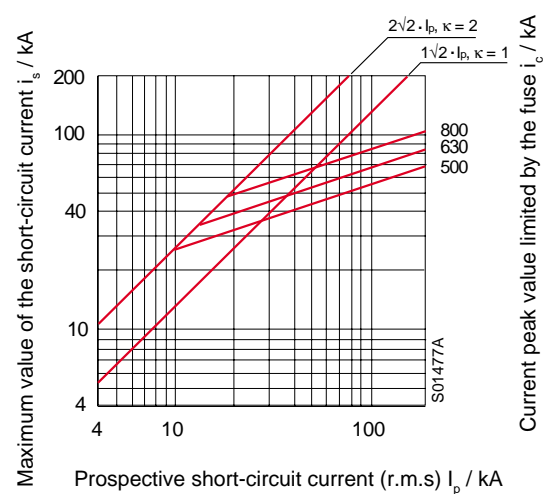
### OFAA 00...3 gG-fuses



### OFAA 000 gG-fuses



### OFAA 4a gG-fuses



# FuseLine

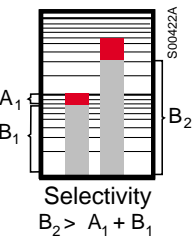
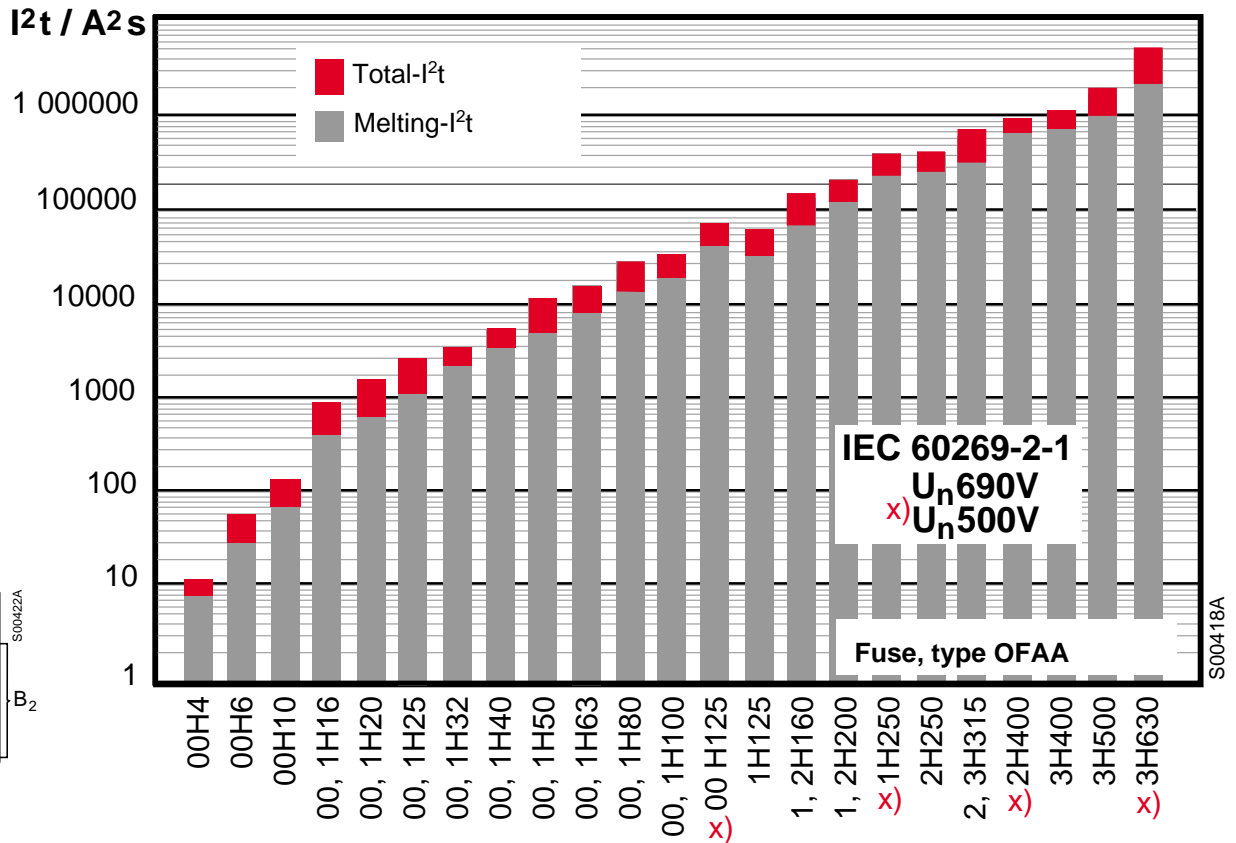
## HRC Fuse links, type gG, up to 690V

### I<sup>2</sup>t -values, Dimension drawings

gG  
690V

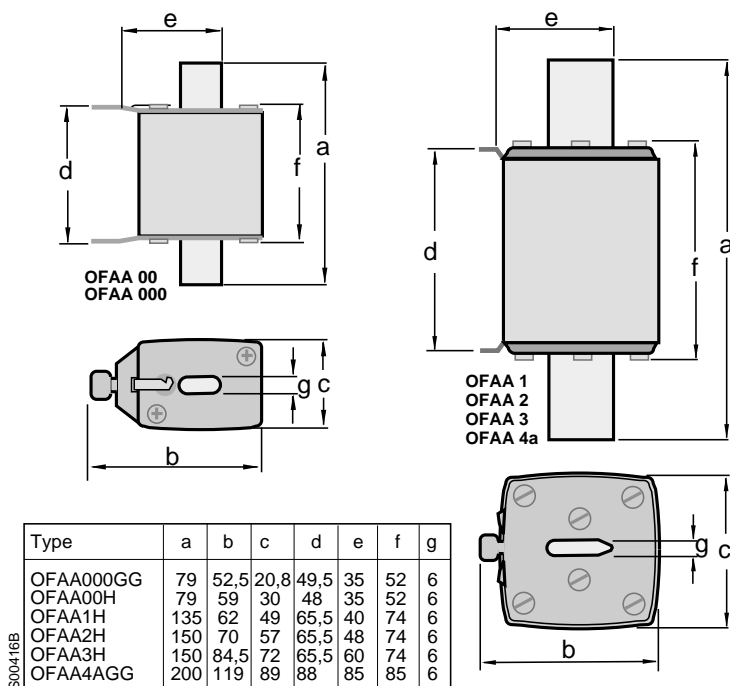
### OFAA 00, 1, 2 and 3 gG-fuses, I<sup>2</sup>t -values

OFAA 00H 125, \_1 H 250, \_2H 400 and \_3H 630 for voltage 500 V, other types for voltage 690 V.  
Values are valid also for industrial fuses OFAA\_-H20.



### OFAA, gG-fuses, dimension drawings

Values are valid also for industrial fuses OFAA\_-H20.



# FuseLine

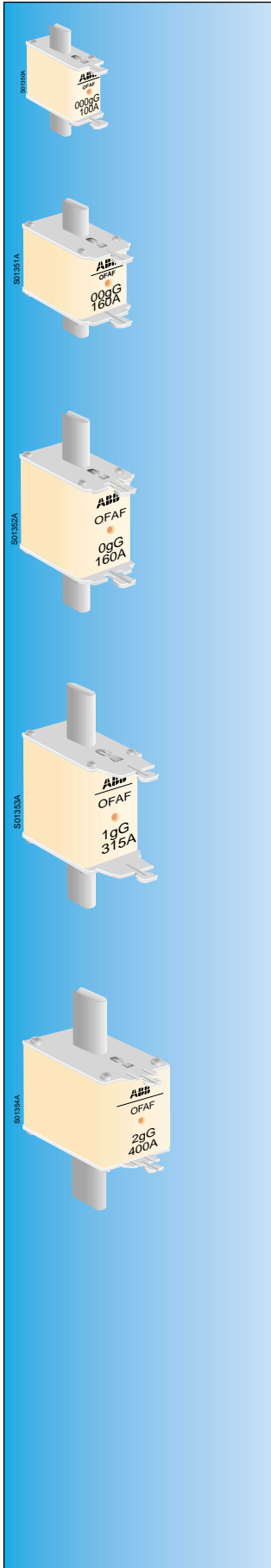
## HRC Fuse links, type gG, 500V

### Ordering information

gG  
500V

HRC Fuse links, universal fuses, gG, up to 500V, sizes 000, 00, 0, 1 and 2

Type code includes one fuse link, but the delivery batch is acc. to the table: Packing quantity.



IEC-size	I [A]	Ph [W]	Packing quantity [pcs]	Type	Order number	Weight [kg]	
000	2	3,9	9	OFAF000H2	1SCA022627R0230	0,12	
	4	1,5	9	OFAF000H4	1SCA022627R0310	0,12	
	6	1,6	9	OFAF000H6	1SCA022627R0400	0,12	
	10	1,1	9	OFAF000H10	1SCA022627R0580	0,12	
	16	1,8	9	OFAF000H16	1SCA022627R0660	0,12	
	20	2,4	9	OFAF000H20	1SCA022627R0740	0,12	
	25	2,4	9	OFAF000H25	1SCA022627R0820	0,12	
	32	2,7	9	OFAF000H32	1SCA022627R0910	0,12	
	35	3,0	9	OFAF000H35	1SCA022627R1040	0,12	
	40	3,4	9	OFAF000H40	1SCA022627R1120	0,12	
	50	3,9	9	OFAF000H50	1SCA022627R1210	0,12	
	63	4,7	9	OFAF000H63	1SCA022627R1390	0,12	
	80	5,7	9	OFAF000H80	1SCA022627R1470	0,12	
	100	6,7	9	OFAF000H100	1SCA022627R1550	0,12	
	00	125	8,4	3	OFAF00H125	1SCA022627R1630	0,18
		160	10,6	3	OFAF00H160	1SCA022627R1710	0,18
0	6	1,8	3	OFAF0H6	1SCA022627R1800	0,21	
	10	1,5	3	OFAF0H10	1SCA022627R1980	0,21	
	16	2,5	3	OFAF0H16	1SCA022627R2010	0,21	
	20	3,5	3	OFAF0H20	1SCA022627R2100	0,21	
	25	3,5	3	OFAF0H25	1SCA022627R2280	0,21	
	32	3,2	3	OFAF0H32	1SCA022627R2360	0,21	
	35	3,5	3	OFAF0H35	1SCA022627R2440	0,21	
	40	4,2	3	OFAF0H40	1SCA022627R2520	0,21	
	50	5,1	3	OFAF0H50	1SCA022627R2610	0,21	
	63	6,2	3	OFAF0H63	1SCA022627R2790	0,21	
	80	7,1	3	OFAF0H80	1SCA022627R2870	0,21	
	100	8,7	3	OFAF0H100	1SCA022627R2950	0,21	
	125	11,0	3	OFAF0H125	1SCA022627R3090	0,21	
	160	11,7	3	OFAF0H160	1SCA022627R3170	0,21	
	200	15,0	3	OFAF0H200	1SCA022629R5140	0,30	
	224	16,2	3	OFAF0H224	1SCA022629R5220	0,30	
250	17,8	3	OFAF0H250	1SCA022627R3170	0,30		
1	16	2,5	3	OFAF1H16	1SCA022627R3250	0,28	
	20	3,5	3	OFAF1H20	1SCA022627R3330	0,28	
	25	3,3	3	OFAF1H25	1SCA022627R3410	0,28	
	32	3,2	3	OFAF1H32	1SCA022627R3500	0,28	
	35	3,5	3	OFAF1H35	1SCA022627R3680	0,28	
	40	4,2	3	OFAF1H40	1SCA022627R3760	0,28	
	50	5,1	3	OFAF1H50	1SCA022627R3840	0,28	
	63	6,2	3	OFAF1H63	1SCA022627R3920	0,28	
	80	7,1	3	OFAF1H80	1SCA022627R4060	0,28	
	100	8,7	3	OFAF1H100	1SCA022627R4140	0,28	
	125	11,0	3	OFAF1H125	1SCA022627R4220	0,40	
	160	11,7	3	OFAF1H160	1SCA022627R4310	0,40	
	200	14,5	3	OFAF1H200	1SCA022627R4490	0,40	
	224	15,9	3	OFAF1H224	1SCA022627R4570	0,40	
	250	19,7	3	OFAF1H250	1SCA022627R4650	0,40	
	315	26,0	3	OFAF1H315	1SCA022627R4730	0,34	
2	35	3,5	3	OFAF2H35	1SCA022627R4810	0,42	
	40	5,1	3	OFAF2H40	1SCA022627R4900	0,42	
	50	6,0	3	OFAF2H50	1SCA022627R5030	0,42	
	63	7,1	3	OFAF2H63	1SCA022627R5110	0,42	
	80	8,6	3	OFAF2H80	1SCA022627R5200	0,42	
	100	10,6	3	OFAF2H100	1SCA022627R5380	0,42	
	125	11,9	3	OFAF2H125	1SCA022627R5460	0,42	
	160	14,0	3	OFAF2H160	1SCA022627R5540	0,42	
	200	15,4	3	OFAF2H200	1SCA022627R5620	0,42	
	224	19,1	3	OFAF2H224	1SCA022627R5710	0,42	
	250	22,5	3	OFAF2H250	1SCA022627R5890	0,42	
	300	24,0	3	OFAF2H300	1SCA022627R5970	0,63	
	315	26,2	3	OFAF2H315	1SCA022627R6010	0,63	
	355	27,5	3	OFAF2H355	1SCA022627R6190	0,63	
	400	30,2	3	OFAF2H400	1SCA022627R6270	0,63	

# FuseLine

## HRC Fuse links, type gG, 500V

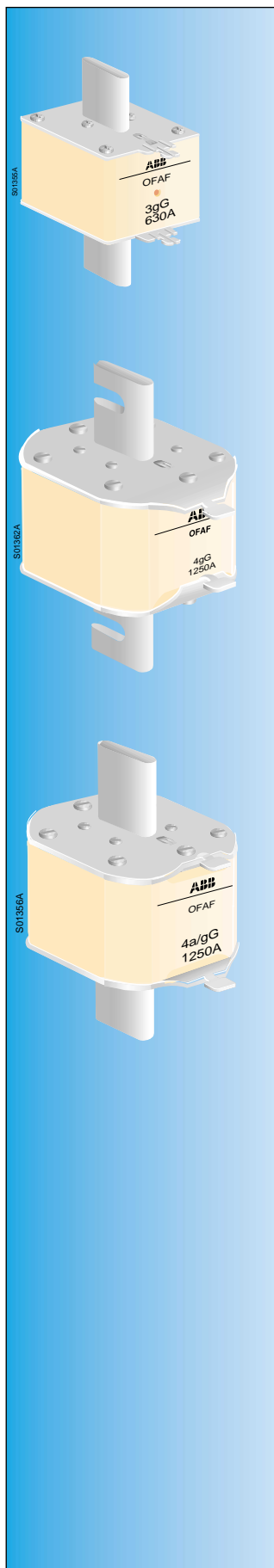
### Ordering information

**gG**  
**500V**

HRC Fuse links, universal fuses, gG, up to 500V, sizes 3, 4 and 4a

Type code includes one fuse link, but the delivery batch is acc. to the table: Packing quantity.

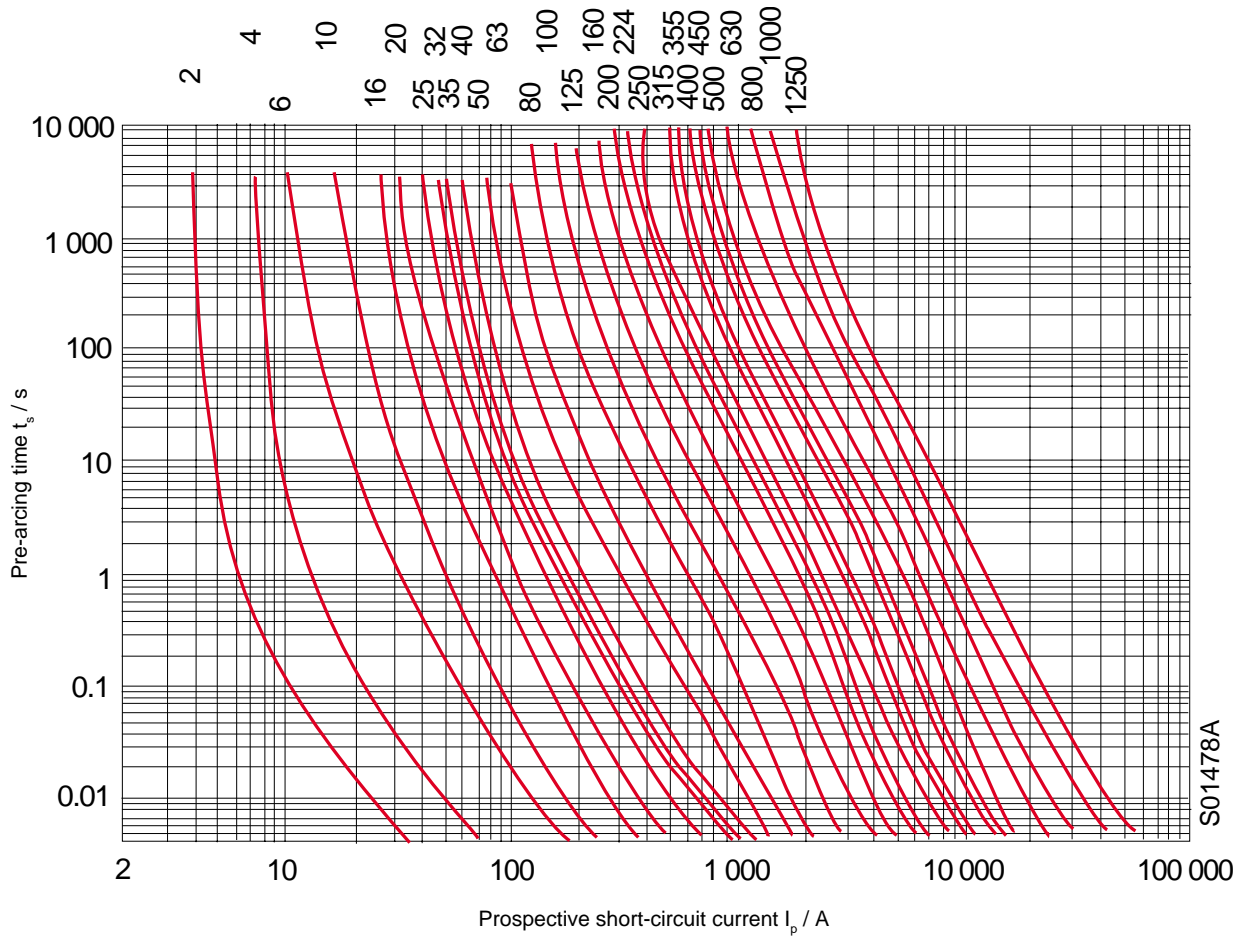
IEC-size	I [A]	Ph [W]	Packing quantity [pcs]	Type	Order number	Weight [kg]
3	250	17,9	1	OFAF3H250	1SCA022627R6350	0.63
	300	20	1	OFAF3H300	1SCA022627R6430	0.63
	315	22,4	1	OFAF3H315	1SCA022627R6510	0.63
	355	23,5	1	OFAF3H355	1SCA022627R6600	0.63
	400	30,1	1	OFAF3H400	1SCA022627R6780	0.63
	425	33,0	1	OFAF3H425	1SCA022627R6860	1.00
	450	36	1	OFAF3H450	1SCA022627R6940	1.00
	500	44,0	1	OFAF3H500	1SCA022627R7080	1.00
	630	47,5	1	OFAF3H630	1SCA022627R7160	1.00
	800	56,9	1	OFAF3H800	1SCA022627R7240	0.90
4	400	31	1	OFAF4H400	1SCA022627R7320	2.0
	500	35	1	OFAF4H500	1SCA022627R7410	2.0
	630	44	1	OFAF4H630	1SCA022627R7590	2.0
	800	70	1	OFAF4H800	1SCA022627R7670	2.0
	1000	85	1	OFAF4H1000	1SCA022627R7750	2.0
	1250	93	1	OFAF4H1250	1SCA022627R7830	2.0
4a	500	33	1	OFAF4AH500	1SCA022637R3980	2.0
	630	43	1	OFAF4AH630	1SCA022637R4010	2.0
	800	58	1	OFAF4AH800	1SCA022637R4100	2.0
	1000	71	1	OFAF4AH1000	1SCA022637R4280	2.0
	1250	85	1	OFAF4AH1250	1SCA022637R4360	2.0



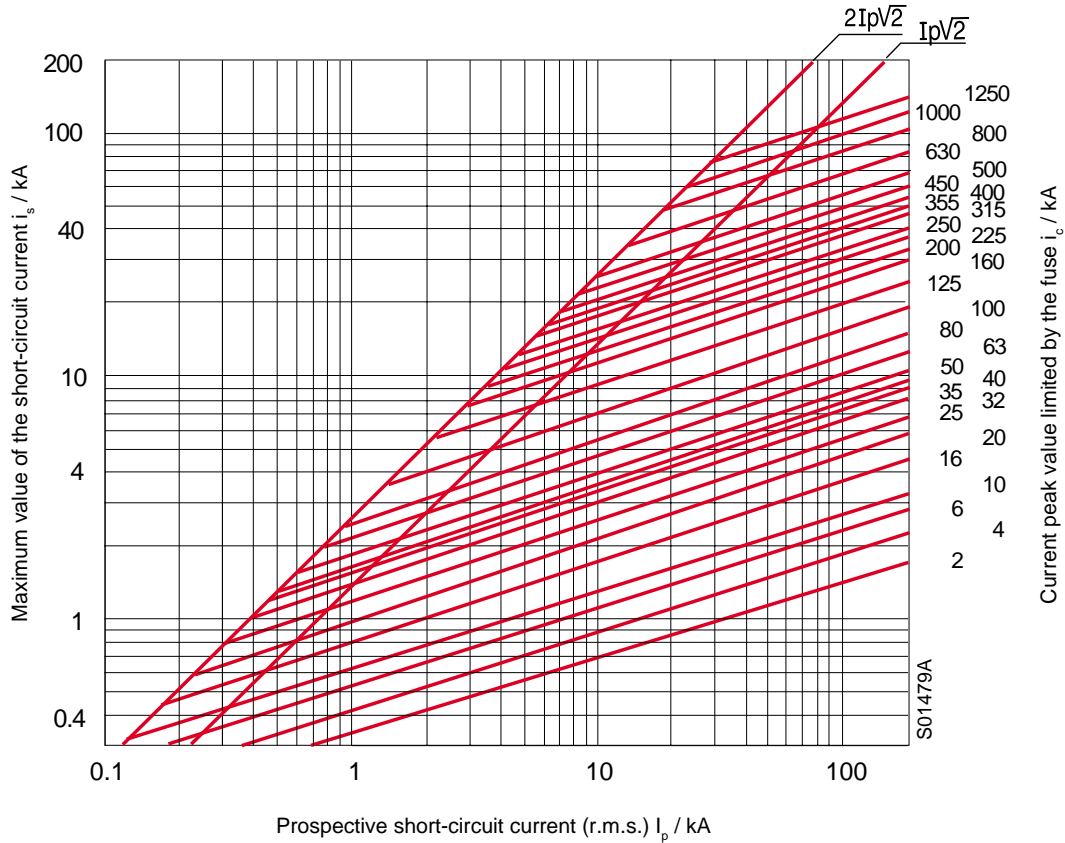
**FuseLine**  
**HRC Fuse links, type gG, 500V**  
Time-current characteristics

gG  
500V

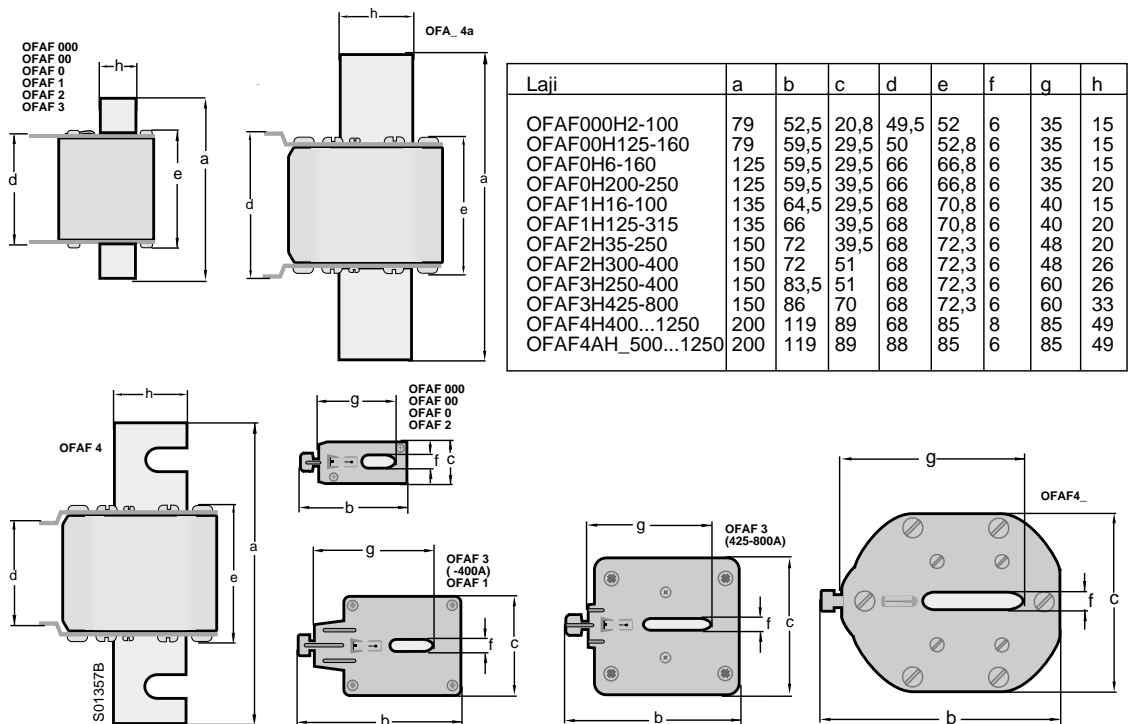
OFAF fuses, time-current characteristic



**OFAF fuses, current limitation**



**OFAF fuses, dimension drawings**

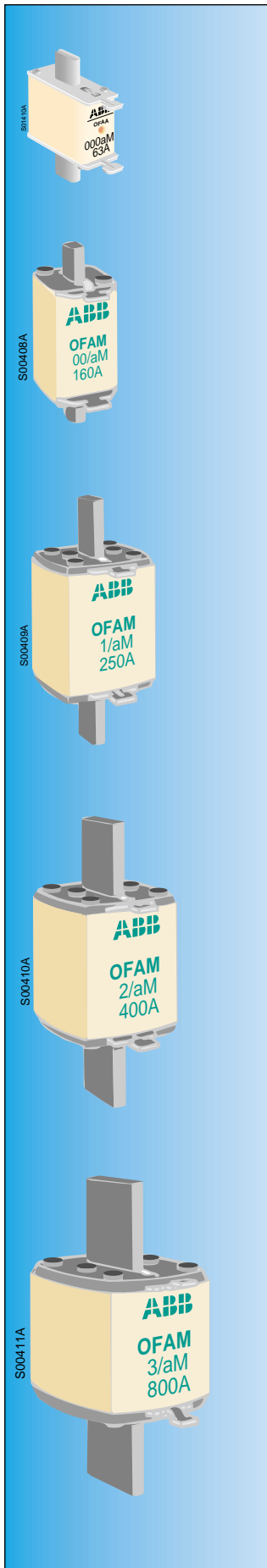


# FuseLine

## HRC Fuse links, type aM, up to 690V

### Ordering information

aM  
690V



### HRC Fuse links, universal fuses, aM, up to 690V, sizes 000, 00, 1, 2 and 3

Type code includes one fuse link, but the delivery batch is 3 pieces/package. (9 pieces/size 000)

IEC -size	In [A]	Un [V]	Ph [W]	Type	Order number	Weight [kg]
000	2	690	0.1	OFAA 000 aM 2	1SCA022660R7640	0.12
	4	690	0.2	OFAA 000 aM 4	1SCA022660R8020	0.12
	6	690	0.3	OFAA 000 aM 6	1SCA022660R8110	0.12
	10	690	0.5	OFAA 000 aM 10	1SCA022660R8290	0.12
	16	690	0.7	OFAA 000 aM 16	1SCA022660R8370	0.12
	20	690	0.9	OFAA 000 aM 20	1SCA022660R8450	0.12
	25	690	1.2	OFAA 000 aM 25	1SCA022660R8530	0.12
	32	690	1.5	OFAA 000 aM 32	1SCA022660R8610	0.12
	35	690	1.6	OFAA 000 aM 35	1SCA022660R8700	0.12
	40	690	1.8	OFAA 000 aM 40	1SCA022660R8880	0.12
	50	690	2.3	OFAA 000 aM 50	1SCA022660R8960	0.12
	63	690	2.9	OFAA 000 aM 63	1SCA022660R9000	0.12
	00	2	690	0.17	OFAM 00 aM 2	1SCA022640R4960
4		690	0.35	OFAM 00 aM 4	1SCA022386R2630	0.16
6		690	0.40	OFAM 00 aM 6	1SCA022386R2710	0.16
10		690	0.83	OFAM 00 aM 10	1SCA022386R2800	0.16
16		690	1.1	OFAM 00 aM 16	1SCA022323R6520	0.16
20		690	1.4	OFAM 00 aM 20	1SCA022323R6790	0.16
25		690	1.6	OFAM 00 aM 25	1SCA022324R2410	0.16
32		690	2.1	OFAM 00 aM 32	1SCA022324R2680	0.16
40		690	2.9	OFAM 00 aM 40	1SCA022324R2840	0.16
50		690	3.7	OFAM 00 aM 50	1SCA022324R2500	0.16
63		690	4.8	OFAM 00 aM 63	1SCA022324R2760	0.16
80		690	6.3	OFAM 00 aM 80	1SCA022324R2920	0.16
100		690	7.4	OFAM 00 aM 100	1SCA022324R8610	0.16
125	690	9.5	OFAM 00 aM 125	1SCA022324R8880	0.16	
160	690	12.0	OFAM 00 aM 160	1SCA022324R9000	0.16	
1	50	690	2.9	OFAM 1 aM 50	1SCA022194R7390	0.49
	63	690	3.5	OFAM 1 aM 63	1SCA022194R7120	0.49
	80	690	4.7	OFAM 1 aM 80	1SCA022194R6910	0.49
	100	690	6.0	OFAM 1 aM 100	1SCA022194R6740	0.49
	125	690	7.1	OFAM 1 aM 125	1SCA022194R6580	0.49
	160	690	14.2	OFAM 1 aM 160	1SCA022103R6100	0.49
	200	690	17.7	OFAM 1 aM 200	1SCA022103R6360	0.49
	250	690	18.3	OFAM 1 aM 250	1SCA022103R6520	0.49
2	125	690	9.3	OFAM 2 aM 125	1SCA022194R6310	0.67
	160	690	9.8	OFAM 2 aM 160	1SCA022194R6150	0.67
	200	690	12.0	OFAM 2 aM 200	1SCA022194R5510	0.67
	250	690	16.0	OFAM 2 aM 250	1SCA022194R5340	0.67
	315	690	25.0	OFAM 2 aM 315	1SCA022103R0670	0.67
	355	690	26.0	OFAM 2 aM 355	1SCA022194R5180	0.67
	400	690	30.0	OFAM 2 aM 400	1SCA022103R0830	0.67
3	315	690	21.0	OFAM 3 aM 315	1SCA022194R4960	0.97
	355	690	25.0	OFAM 3 aM 355	1SCA022194R4700	0.97
	400	690	29.0	OFAM 3 aM 400	1SCA022194R4530	0.97
	500	690	36.0	OFAM 3 aM 500	1SCA022103R1050	0.97
	630	690	40.0	OFAM 3 aM 630	1SCA022103R1210	0.97
	800	500		OFAM 3 aM 800	1SCA022655R7360	0.97

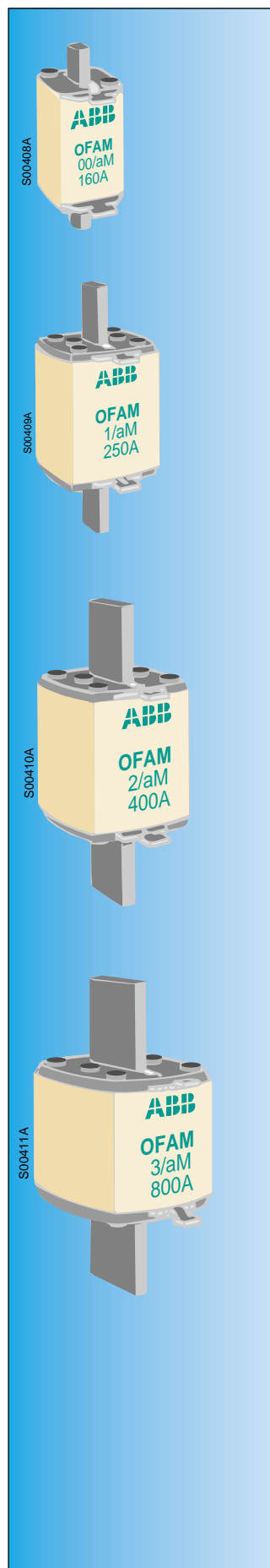


# FuseLine

## HRC Fuse links, type aM, up to 690V

### Ordering information

aM  
690V



### HRC Fuse links, industrial fuses, aM, up to 690V, sizes 00, 1, 2 and 3

Industrial fuses with 20 µm silver coating.

Type code includes one fuse link, but the delivery batch is 3 pieces/package.

IEC -size	In [A]	Un [V]	Ph [W]	Type	Order number	Weight [kg]
00	2	690	0.17	OFAM 00 aM 2-H20	1SCA022640R5000	0.16
	4	690	0.35	OFAM 00 aM 4-H20	1SCA022386R7270	0.16
	6	690	0.40	OFAM 00 aM 6-H20	1SCA022386R7350	0.16
	10	690	0.72	OFAM 00 aM 10-H20	1SCA022386R7430	0.16
	16	690	1.1	OFAM 00 aM 16-H20	1SCA022339R3460	0.16
	20	690	1.4	OFAM 00 aM 20-H20	1SCA022339R3620	0.16
	25	690	1.6	OFAM 00 aM 25-H20	1SCA022339R3890	0.16
	32	690	2.1	OFAM 00 aM 32-H20	1SCA022339R4010	0.16
	40	690	2.9	OFAM 00 aM 40-H20	1SCA022339R4270	0.16
	50	690	3.7	OFAM 00 aM 50-H20	1SCA022339R4430	0.16
	63	690	4.6	OFAM 00 aM 63-H20	1SCA022339R4600	0.16
	80	690	6.4	OFAM 00 aM 80-H20	1SCA022339R4860	0.16
	100	690	7.7	OFAM 00 aM 100-H20	1SCA022339R5080	0.16
	125	690	9.1	OFAM 00 aM 125-H20	1SCA022339R5240	0.16
160	690	12.0	OFAM 00 aM 160-H20	1SCA022339R5410	0.16	
1	50	690	2.9	OFAM 1 aM 50-H20	1SCA022299R7600	0.49
	63	690	3.5	OFAM 1 aM 63-H20	1SCA022299R7860	0.49
	80	690	4.7	OFAM 1 aM 80-H20	1SCA022299R8080	0.49
	100	690	6.0	OFAM 1 aM 100-H20	1SCA022299R6620	0.49
	125	690	7.1	OFAM 1 aM 125-H20	1SCA022299R6890	0.49
	160	690	14.2	OFAM 1 aM 160-H20	1SCA022299R7010	0.49
	200	690	17.7	OFAM 1 aM 200-H20	1SCA022299R7270	0.49
2	125	690	9.3	OFAM 2 aM 125-H20	1SCA022299R8240	0.67
	160	690	9.8	OFAM 2 aM 160-H20	1SCA022299R8410	0.67
	200	690	12.0	OFAM 2 aM 200-H20	1SCA022299R8670	0.67
	250	690	16.0	OFAM 2 aM 250-H20	1SCA022299R8830	0.67
	315	690	25.0	OFAM 2 aM 315-H20	1SCA022299R9050	0.67
	355	690	26.0	OFAM 2 aM 355-H20	1SCA022299R9210	0.67
3	400	690	30.0	OFAM 2 aM 400-H20	1SCA022299R9480	0.67
	315	690	21.0	OFAM 3 aM 315-H20	1SCA022299R3520	0.97
	355	690	25.0	OFAM 3 aM 355-H20	1SCA022299R3790	0.97
	400	690	29.2	OFAM 3 aM 400-H20	1SCA022299R3950	0.97
	500	690	36.0	OFAM 3 aM 500-H20	1SCA022299R4170	0.97
	630	690	40.0	OFAM 3 aM 630-H20	1SCA022299R4330	0.97
800	500		OFAM 3 aM 800-H20	1SCA022655R7440	0.97	

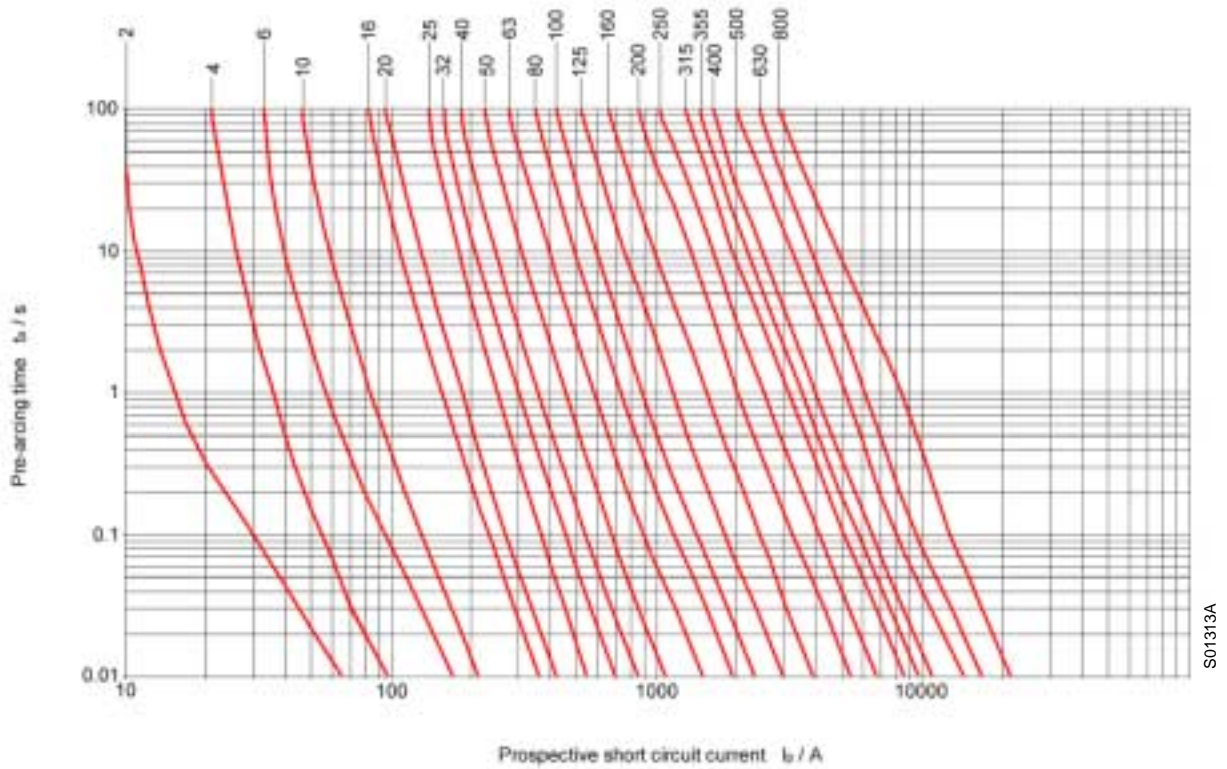
**FuseLine**  
**HRC Fuse links, type aM, up to 690V**  
 Time-current characteristics

aM  
 690V

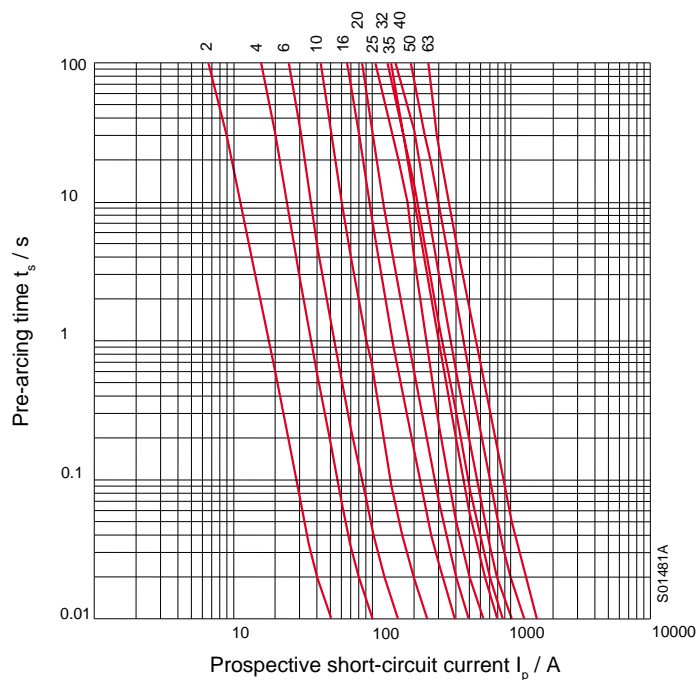
**OFAM and OFAA, aM-fuses, time-current characteristics**

Values are valid also for industrial fuses OFAM\_-H20.

**OFAM 00...3 aM -fuses**



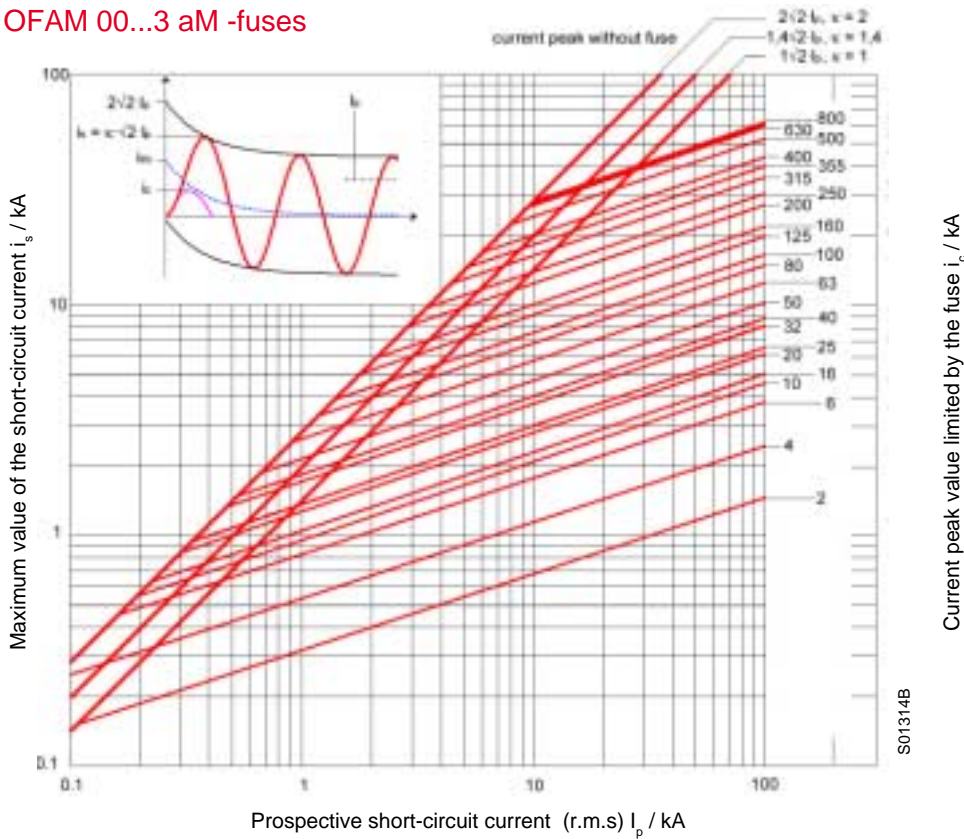
**OFAA 000 aM -fuses**



**OFAM and OFAA, aM-fuses, current limitation**

Values are valid also for industrial fuses OFAM\_-H20.

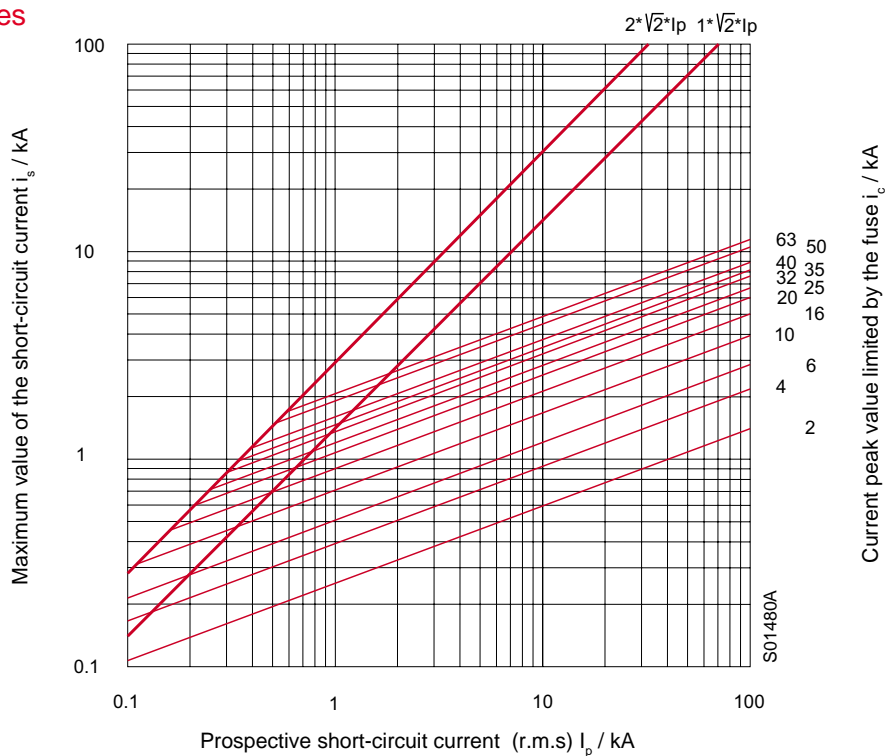
**OFAM 00...3 aM -fuses**



- $I_p$  =prospective short circuit current
- $i_s$  =maximum value of the short-circuit current
- $i_{dc}$  =value of DC component
- $i_c$  =current peak value limited by the fuse
- $K$  =correction factor



**OFAA 000 aM -fuses**



# FuseLine

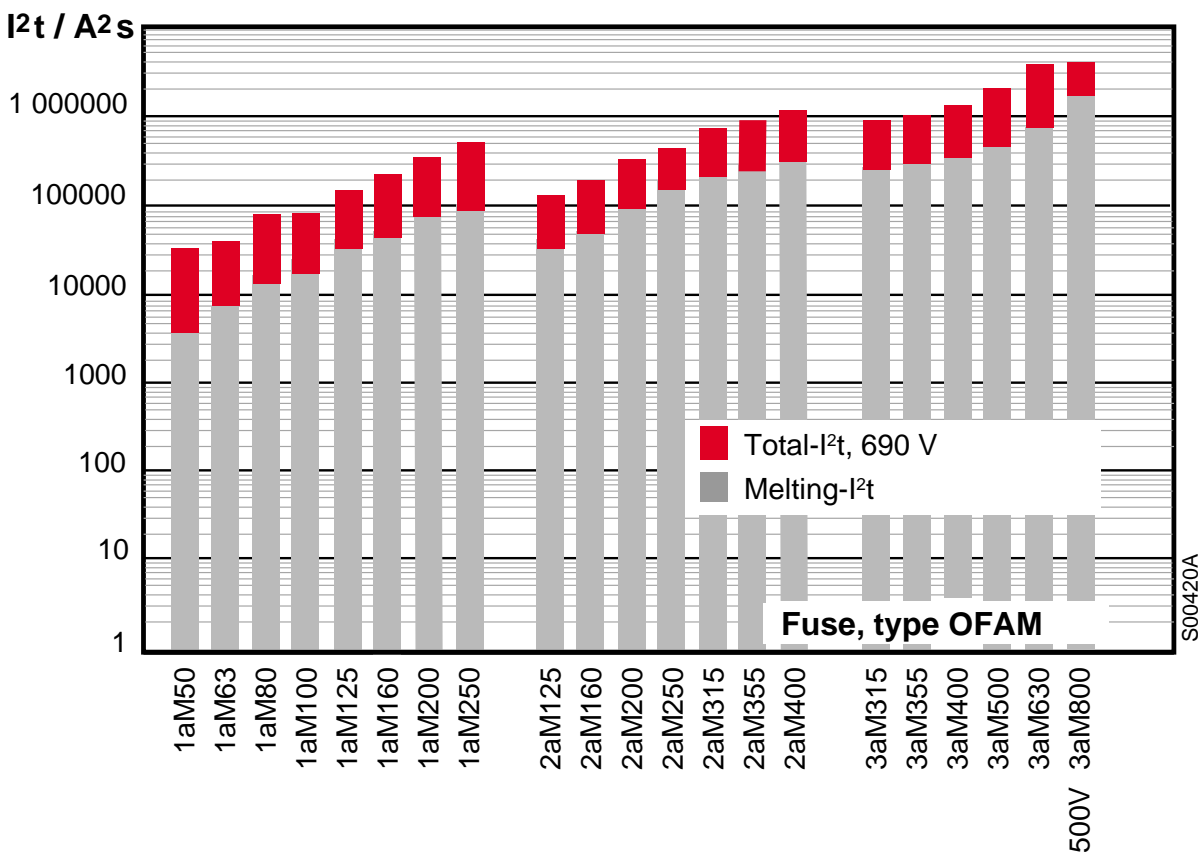
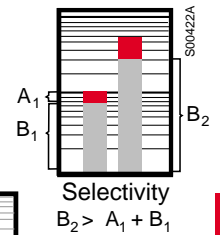
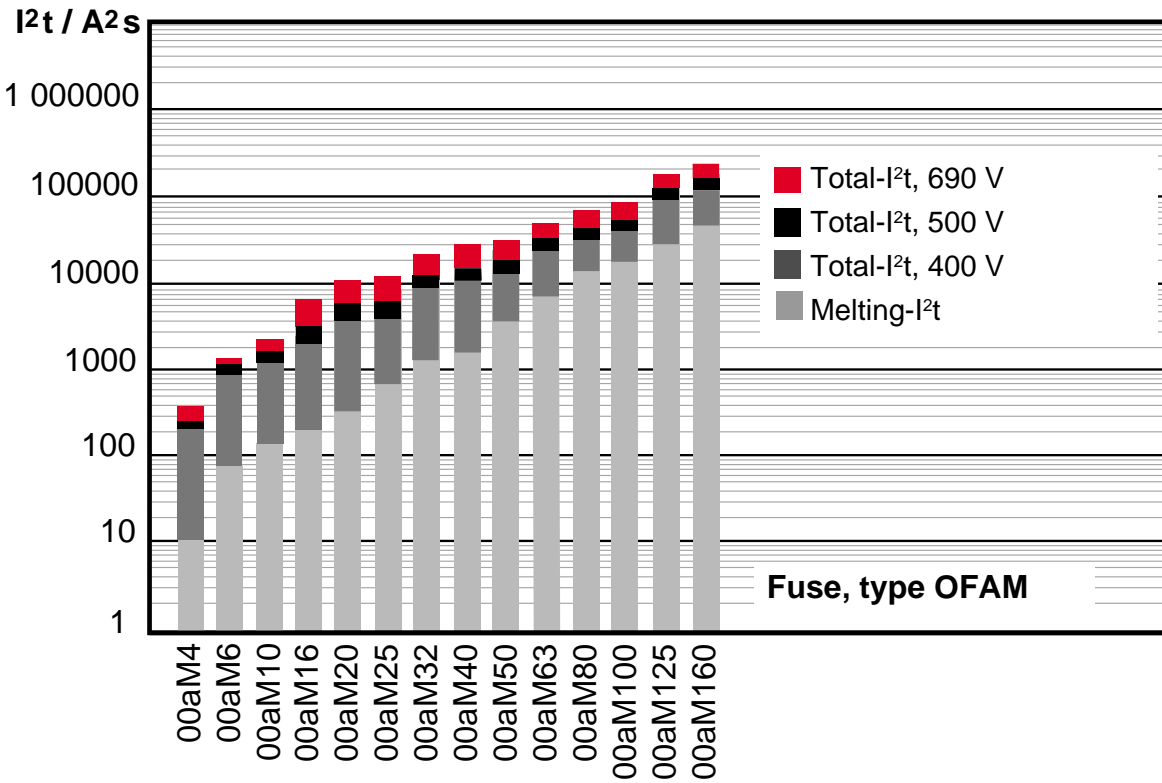
## HRC Fuse links, type aM, up to 690V

### $I^2t$ -values

aM  
690V

### OFAM 00, 1, 2 and 3-fuses, $I^2t$ -values

Values are valid also for industrial fuses OFAM\_-H20.



# FuseLine

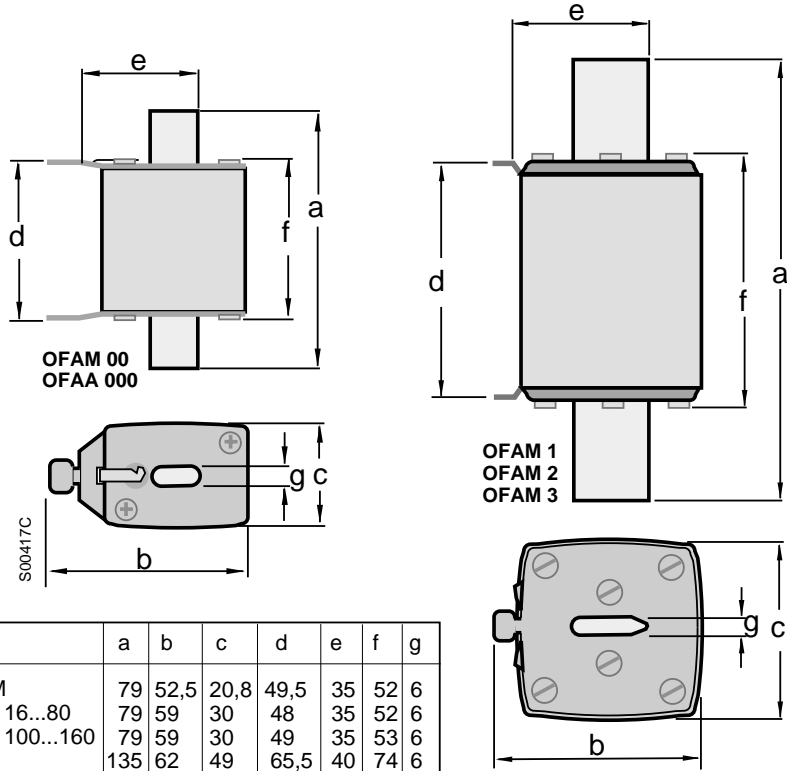
## Fuse links, type aM, up to 690V

### Dimension drawings

aM  
690V

## OFAA and OFAM, aM-fuses, dimension drawings

Values are valid also for industrial fuses OFAM\_-H20.



Type	a	b	c	d	e	f	g
OFAA000aM	79	52,5	20,8	49,5	35	52	6
OFAM00aM 16...80	79	59	30	48	35	52	6
OFAM00aM 100...160	79	59	30	49	35	53	6
OFAM1aM	135	62	49	65,5	40	74	6
OFAM2aM	150	70	57	65,5	48	74	6
OFAM3aM	150	84,5	72	65,5	60	74	6



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The operations of the manufacturing plant have been certified.



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