

# Insulated Flexible Busbar

## A COMPLETE RANGE FLEXIBLE BUSBAR

- Patent insulation on Flexibar:
  - Advanced
  - Standard
  - Summum



## ENHANCED FLEXIBILITY

nVent's exclusive manufacturing process offers superior flexibility:

- Copper laminates are free to slide within the insulation
- High insulation quality
- Wide variety of bending, twisting & folding possibilities

## INNOVATIVE PATENT INSULATION

Flexibar has added grooves on the inner surface of the insulation sleeve to improve sliding between the central conductor and the insulation material. The grooves help to reduce the contact surface between the central conductor and the insulation material. This results enhances the flexibility of the flexible busbar.

Result: <20% of the inner surface is in contact with the central conductor.

This nVent ERIFLEX patent idea makes Flexibar more flexible than ever and allows users to optimize the design of their electrical power connection.

\* This patent is applicable for the cross section indication by "\*" on the part number.

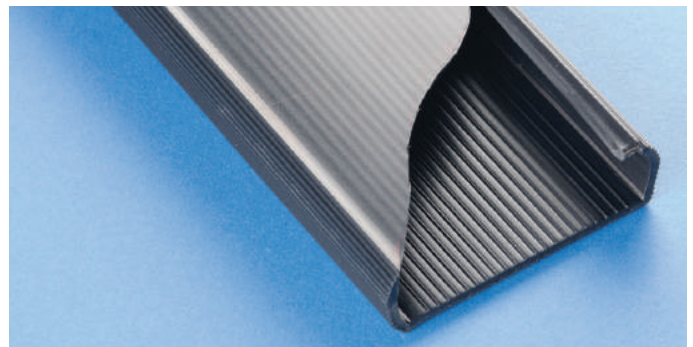
## THE REFERENCE CONDUCTOR

- Flexibar is composed by with multiple layers of thin electrolytic copper, available in plain (Standard and Summum) or tin plated (Advanced & Standard)
- Flexibar connections are made by punching directly through the laminates. There are no lugs to purchase, which eliminates faulty connection problems and makes installation easier and faster
- The insulation is a high-resistance, self-extinguishing TPE (Flexibar Advanced), Silicone (Flexibar Summum) or PVC (Flexibar Classic) compound
- Traceability code and designation Part Number on product
- Easily formed, Flexibar improves assembly flexibility and aesthetics of panels
- Optimal alternative to large cable & rigid busbar
- Quality: 100% production dielectric tested
- Full range from 24 mm<sup>2</sup> up to 1200 mm<sup>2</sup>



## FEATURES

- Self-extinguishable/flame retardant
- High mechanical resistance
- High elongation value
- High current withstanding
- High copper quality (99.9% purity)
- High conductivity



## CONNECTION TYPES

- Between main power and distribution equipment (contactors, circuit-breakers...)
- Between transformer and busduct
- Between busduct and electrical cabinet

## SPACE/WEIGHT SAVINGS

- Less installation space compared to cable
- Reduces the length, number of conductors and weight
- Insulation allows for closer spacing than traditional busbar designs

## COST SAVINGS

- Eliminates cost and installation of lugs
- Reduces inventory costs

## IMPROVES RELIABILITY

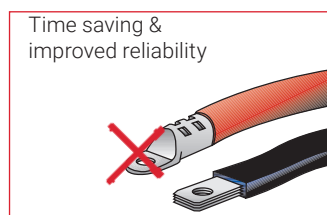
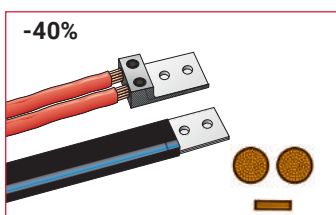
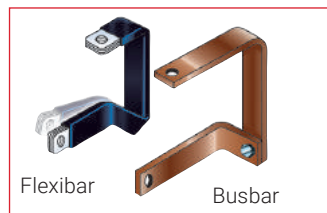
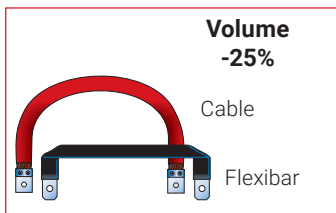
- Flexibar is directly connected thus eliminating the cable lug connection
- Excellent resistance to vibration
- No crimping

## AESTHETICS

- Optimal flexibility for an easy access

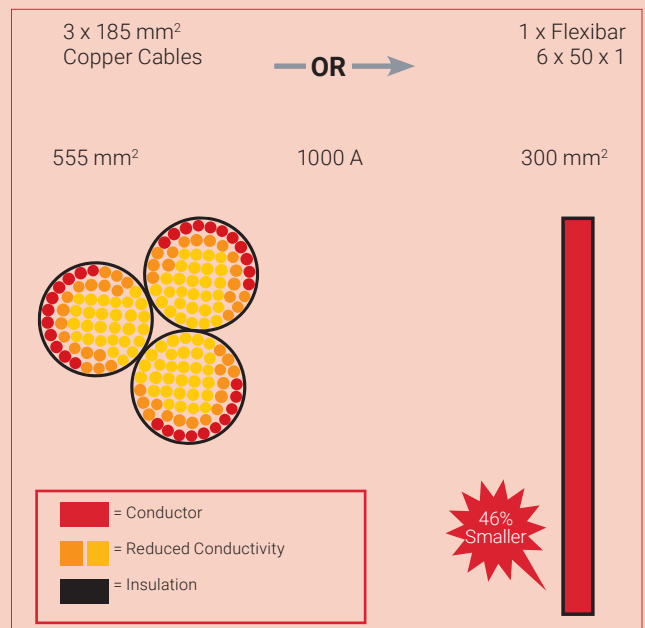
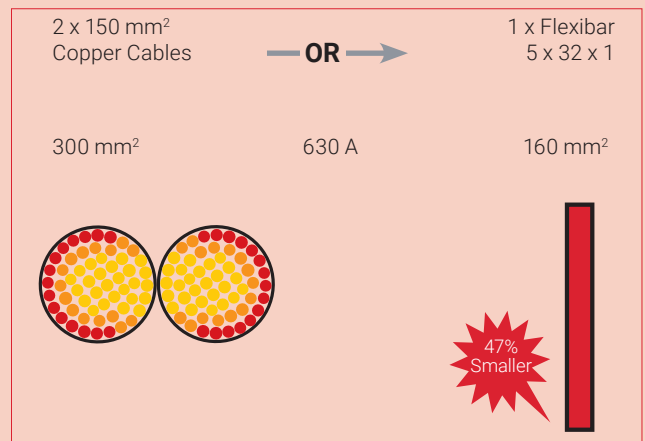
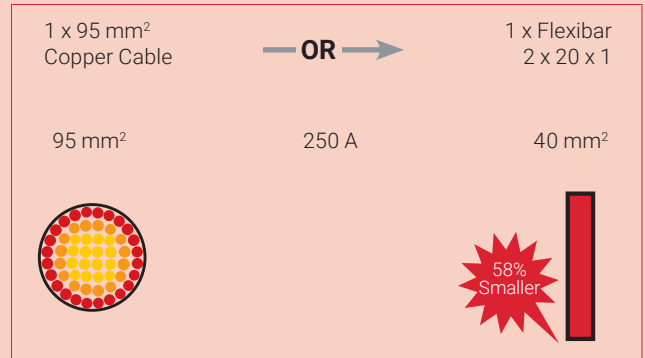
## EASY INSTALLATION

- Thanks to its design all Flexibar can be easily bent and shaped for all sizes



## SKIN EFFECT ON A.C. APPLICATION

Comparison to the penetration depth between:



Representative to scale.  
Flexibar intensity and cable intensity are based on conductor temperature rise of 50°C.

# Flexibar Advanced



## UNIQUE - SAFER - FLEXIBLE



## WHY IS FLEXIBAR ADVANCED A SAFER INSULATION?

### Low smoke features:

- Generates less corrosive smoke ISO 5659-2.
- Improves visibility for people to be able to easily locate the emergency exit and also allows rescue workers to better assess an emergency situation.

### The halogen-free feature enables:

- Reduction in the quantity of toxic smoke
- Minimum of toxicity with no halogens (according to IEC 60754-1)
- Use in enclosed spaces for specific applications such as submarines, switchboards, and other enclosed environments that require a low emissions solution

### The flame retardant portion of the test illustrates the self-extinguish feature:

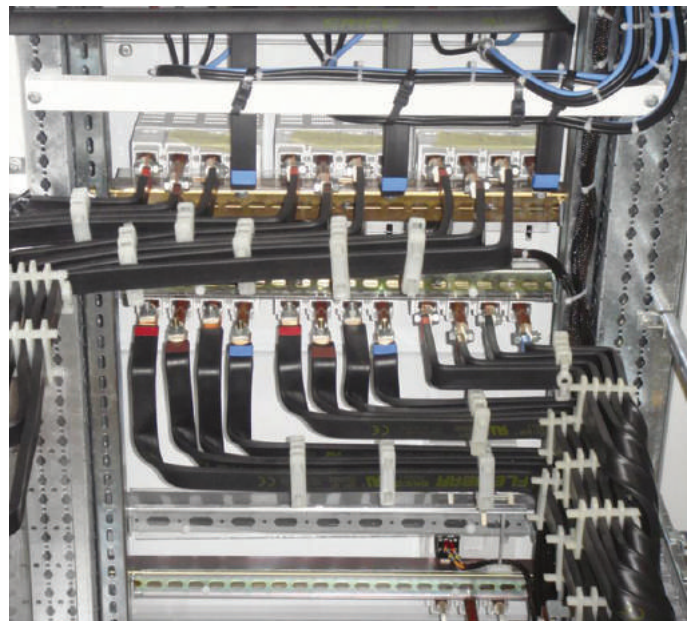
- Compliant with the UL 94-V0 Glow wire test @ 960°C (IEC 60695-2) testing standard.
- Reduces the risk of the spread of fire
- Less damage to your electrical installation

## FLEXIBAR ADVANCED

### UNIQUE – SAFER – FLEXIBLE

- Conductor is electrolytic **tinned** copper (Cu-ETP)
- Insulation is a high-resistance TEP **Low Smoke, Halogen Free and Flame Retardant (LSHFRR)**, compound:
  - Typical elongation: 500%
  - Working temperature: -50°C 105°C
  - Typical thickness: 1.8 mm
  - Self-extinguishing: UL 94 V0
  - Dielectric strength: 20kV/mm
  - Nominal voltage: 1000 V AC/1500 V DC (IEC – UL)
  - Dielectric strength: 20kV/mm

**Flexibar Advanced** has a unique insulation on the market that combine **low smoke, halogen-free and flame retardant** features that improve both the reliability of your electrical installation and safety for equipment and people.



Some photographs in the Flexibar Advanced section may actually be using Flexibar

# FLEXIBAR ADVANCED TECHNICAL CHARACTERISTICS



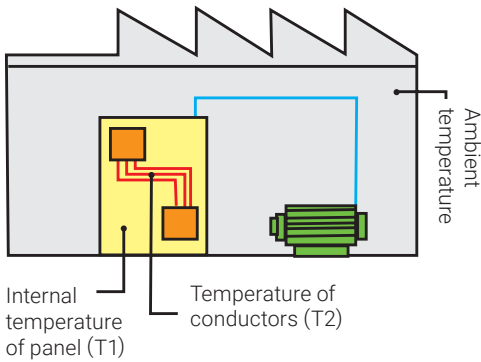
A	Part Number	N	Section		mm <sup>2</sup>	$\Delta T$ (K)						Current Coefficient	
			A	B		70	60	50	40	30	20		
125 A	534001	3	x 9	x 0,8	21,6	158	147	134	120	104	85	1,72	2,25
	534000	8	x 6	x 0,5	24	196	182	166	143	128	105	1,72	2,25
	534004	3	x 13	x 0,5	19,5	198	184	167	150	130	106	1,72	2,25
	534006	2	x 15,5	x 0,8	24,8	252	234	212	191	165	134	1,72	2,25
	534002	6	x 9	x 0,8	43,2	290	269	245	220	190	155	1,72	2,25
250 A	534005	6	x 13	x 0,5	39	300	277	253	226	196	160	1,72	2,25
	534003	9	x 9	x 0,8	64,8	314	291	265	237	206	168	1,72	2,25
	534010	2	x 20	x 1	40	326	300	275	246	214	174	1,72	2,25
	534007	4	x 15,5	x 0,8	49,6	380	350	320	286	248	202	1,72	2,25
	534011	3	x 20	x 1	60	428	395	360	323	280	228	1,72	2,25
534016	2	x 24	x 1	48	450	416	380	340	295	240	1,72	2,25	
400 A	534008	6	x 15,5	x 0,8	74,4	476	440	402	360	318	254	1,72	2,25
	534012	4	x 20	x 1	80	476	440	402	360	312	254	1,72	2,25
	534023	2	x 32	x 1	64	480	445	406	363	315	257	1,72	2,25
	534017	3	x 24	x 1	72	490	453	413	370	320	261	1,72	2,25
	534013	5	x 20	x 1	100	498	460	420	376	326	266	1,72	2,25
	534009	10	x 15,5	x 0,8	124	538	498	455	407	352	288	1,72	2,25
	534030	2	x 40	x 1	80	538	500	455	406	352	288	1,72	2,25
	534014	6	x 20	x 1	120	546	506	462	413	358	292	1,72	2,25
	534018	4	x 24	x 1	96	550	510	465	416	360	294	1,72	2,25
	534024	3	x 32	x 1	96	570	525	480	430	372	304	1,72	2,25
500 A	534019	5	x 24	x 1	120	608	563	514	460	398	325	1,72	2,25
	534031	3	x 40	x 1	120	617	570	522	466	405	330	1,72	2,25
	534025	4	x 32	x 1	128	648	600	548	490	425	347	1,72	2,25
	534020	6	x 24	x 1	144	670	620	566	506	438	358	1,72	2,25
	534037	3	x 50	x 1	150	700	650	592	530	460	374	1,72	2,25
	534032	4	x 40	x 1	160	727	673	615	550	476	389	1,72	2,25
630 A	534026	5	x 32	x 1	160	758	702	640	573	496	405	1,72	2,25
	534015	10	x 20	x 1	200	762	706	645	576	500	408	1,72	2,25
	534021	8	x 24	x 1	192	802	743	678	606	525	429	1,72	2,25
	534027	6	x 32	x 1	192	846	783	715	640	555	452	1,72	2,25
	534038	4	x 50	x 1	200	860	795	727	650	563	460	1,72	2,25
	534033	5	x 40	x 1	200	900	832	760	680	590	481	1,72	2,25
800 A	534022	10	x 24	x 1	240	948	877	800	716	592	506	1,72	2,25
	534044	4	x 63	x 1	252	1010	935	855	763	661	541	1,65	2,12
	534028	8	x 32	x 1	256	1018	943	860	770	667	544	1,72	2,25
	534034	6	x 40	x 1	240	1018	943	860	770	667	544	1,72	2,25
	534039	5	x 50	x 1	250	1100	1016	930	830	718	588	1,72	2,25
1000 A	534049	4	x 80	x 1	320	1200	1110	1015	906	785	642	1,65	2,12
	534045	5	x 63	x 1	315	1220	1125	1030	920	797	651	1,65	2,12
	534040	6	x 50	x 1	300	1225	1135	1035	925	802	655	1,72	2,25
	534029	10	x 32	x 1	320	1230	1140	1040	930	805	658	1,72	2,25
	534035	8	x 40	x 1	320	1230	1140	1040	930	805	658	1,72	2,25
	534041	8	x 50	x 1	400	1393	1290	1175	1050	912	743	1,72	2,25
	534050	5	x 80	x 1	400	1390	1285	1175	1050	910	743	1,65	2,12
	534036	10	x 40	x 1	400	1400	1295	1181	1055	915	747	1,72	2,25
	534046	6	x 63	x 1	378	1437	1330	1215	1085	941	768	1,65	2,12
1250 A	534051	6	x 80	x 1	480	1627	1505	1375	1230	1065	870	1,65	2,12
	534055	5	x 100	x 1	500	1635	1515	1385	1235	1070	876	1,6	2,02
	534042	10	x 50	x 1	500	1650	1525	1395	1245	1080	882	1,72	2,25
	534047	8	x 63	x 1	504	1650	1525	1395	1245	1080	882	1,65	2,12
	534056	6	x 100	x 1	600	1843	1705	1550	1393	1205	980	1,6	2,02
1600 A	534048	10	x 63	x 1	630	1895	1755	1600	1435	1240	1012	1,65	2,12
	534052	8	x 80	x 1	640	1895	1755	1600	1430	1240	1012	1,65	2,12
	534053	10	x 80	x 1	800	2100	1945	1775	1585	1375	1123	1,65	2,12
	534057	8	x 100	x 1	800	2147	1990	1815	1625	1405	1148	1,6	2,02
	534058	10	x 100	x 1	1000	2350	2170	1985	1775	1535	1255	1,6	2,02
	534059	12	x 100	x 1	1200	2500	2315	2115	1890	1636	1338	1,6	2,02
	534060	10	x 120	x 1	1200	2755	2550	2330	2070	1792	1474	1,49	1,95

ADMISSIBLE CURRENTS: This table indicates the temperature rise produced by chosen current in the given section. This calculation does not take into account the heat dissipation from the switch gear.

# Flexibar Advanced

## UNIQUE - SAFER - FLEXIBLE

### Selection of Flexibar Advanced according to the internal temperature of the panel



### TEMPERATURE RISE OF CONDUCTOR = $T2 - T1 = \Delta T$ (K)

Ex: For a current of 630A, with:  $T1 = 40^{\circ}\text{C}$  -  $T2 = 90^{\circ}\text{C}$

- 1)  $\Delta T = 90 - 40 = 50\text{K}$
- 2) In the 50°K column, find the closest current value to 630A.  
Flexibar Advanced 5x32x1 - 552650 - 160 mm<sup>2</sup> - 640A.
- 3) Select Flexibar Advanced according to the terminal width of the equipment being connected.

K = Kelvin degree (temperature calculated, but not measurable)

### FLEXIBAR ADVANCED IN PARALLEL

When using 2 or 3 Flexibar Advanced on edge in parallel for the same phase, use the coefficient:

Ex:  $5 \times 32 \times 1 - \Delta T^{\circ} = 50\text{K}$ : 640 A

2 bars in parallel >  $640\text{ A} \times 1,72 = 1100\text{ A}$

3 bars in parallel >  $640\text{ A} \times 2,25 = 1440\text{ A}$

### CERTIFICATION & APPROVALS

- International Commission Electrotechnique (IEC) - Meets all requirements of IEC 61439.1
- UL 67 Recognized component in the "Panelboard and Switchboard accessories – component category (UL file E125470) for US
- UL 758 Recognized component in the "Appliance wiring material - component" category style 11681
- CE Conformity
- RoHS compliant
- Class II Conductors (IEC 61439-1, Chapter 8.4.4 - Protection by total insulation)
- Low Smoke ISO 5659-2
- Halogen-free IEC 60754-1
- Flame retardant UL94-V0
- Glow wire test @ 960°C (IEC 60695-2)





# Flexibar Advanced Part Numbers

## 2 METERS TINNED COPPER

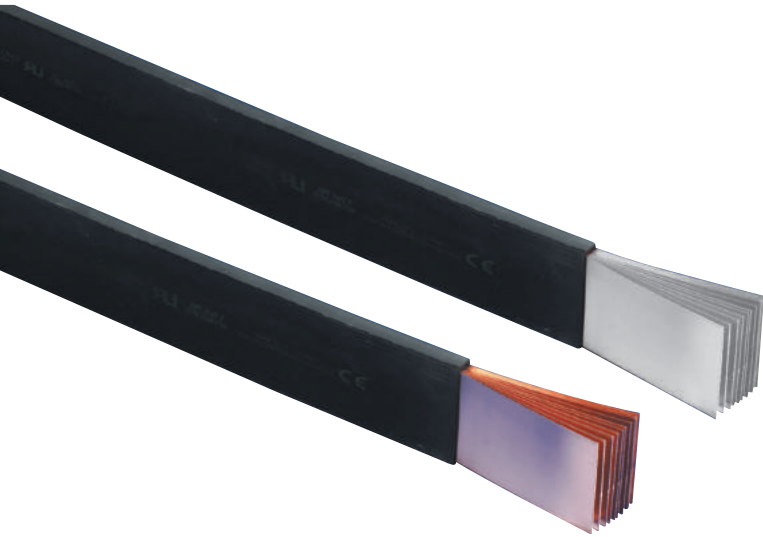
Part Number	Global Part Number	Flexibar Description		 Kg
534000	FADV2MTC8X6	Flexibar Advanced 2 m Tinned Copper 8X6X0,5	4	0,35
534001	FADV2MTC3X9	Flexibar Advanced 2 m Tinned Copper 3X9X0,8	4	0,43
534002	FADV2MTC6X9	Flexibar Advanced 2 m Tinned Copper 6X9X0,8	4	0,81
534003	FADV2MTC9X9	Flexibar Advanced 2 m Tinned Copper 9X9X0,8	4	1,19
534004	FADV2MTC3X13	Flexibar Advanced 2 m Tinned Copper 3X13X0,5	4	0,45
534005	FADV2MTC6X13	Flexibar Advanced 2 m Tinned Copper 6X13X0,5	4	0,79
534006	FADV2MTC2X15-5	Flexibar Advanced 2 m Tinned Copper 2X15,5X0,8	4	0,51
534007	FADV2MTC4X15-5	Flexibar Advanced 2 m Tinned Copper 4X15,5X0,8	4	1,02
534008	FADV2MTC6X15-5	Flexibar Advanced 2 m Tinned Copper 6X15,5X0,8	4	1,50
534009	FADV2MTC10X15-5	Flexibar Advanced 2 m Tinned Copper 10X15,5X0,8	4	2,20
534010	FADV2MTC2X20X1	Flexibar Advanced 2 m Tinned Copper 2X20X1	3	1,05
534011	FADV2MTC3X20X1	Flexibar Advanced 2 m Tinned Copper 3X20X1	3	1,42
534012	FADV2MTC4X20X1	Flexibar Advanced 2 m Tinned Copper 4X20X1	3	1,78
534013*	FADV2MTC5X20X1	Flexibar Advanced 2 m Tinned Copper 5X20X1	3	2,15
534014*	FADV2MTC6X20X1	Flexibar Advanced 2 m Tinned Copper 6X20X1	3	2,41
534015*	FADV2MTC10X20X1	Flexibar Advanced 2 m Tinned Copper 10X20X1	3	3,99
534016	FADV2MTC2X24X1	Flexibar Advanced 2 m Tinned Copper 2X24X1	3	1,24
534017	FADV2MTC3X24X1	Flexibar Advanced 2 m Tinned Copper 3X24X1	3	1,68
534018	FADV2MTC4X24X1	Flexibar Advanced 2 m Tinned Copper 4X24X1	3	2,12
534019*	FADV2MTC5X24X1	Flexibar Advanced 2 m Tinned Copper 5X24X1	3	2,55
534020*	FADV2MTC6X24X1	Flexibar Advanced 2 m Tinned Copper 6X24X1	3	2,99
534021*	FADV2MTC8X24X1	Flexibar Advanced 2 m Tinned Copper 8X24X1	3	3,87
534022*	FADV2MTC10X24X1	Flexibar Advanced 2 m Tinned Copper 10X24X1	3	4,75
534023	FADV2MTC2X32X1	Flexibar Advanced 2 m Tinned Copper 2X32X1	2	1,62
534024	FADV2MTC3X32X1	Flexibar Advanced 2 m Tinned Copper 3X32X1	2	2,20
534025	FADV2MTC4X32X1	Flexibar Advanced 2 m Tinned Copper 4X32X1	2	2,78
534026*	FADV2MTC5X32X1	Flexibar Advanced 2 m Tinned Copper 5X32X1	2	3,36
534027*	FADV2MTC6X32X1	Flexibar Advanced 2 m Tinned Copper 6X32X1	2	3,94
534028*	FADV2MTC8X32X1	Flexibar Advanced 2 m Tinned Copper 8X32X1	2	5,10
534029*	FADV2MTC10X32X1	Flexibar Advanced 2 m Tinned Copper 10X32X1	2	6,27
534030	FADV2MTC2X40X1	Flexibar Advanced 2 m Tinned Copper 2X40X1	2	1,99
534031	FADV2MTC3X40X1	Flexibar Advanced 2 m Tinned Copper 3X40X1	2	2,72
534032	FADV2MTC4X40X1	Flexibar Advanced 2 m Tinned Copper 4X40X1	2	3,44
534033*	FADV2MTC5X40X1	Flexibar Advanced 2 m Tinned Copper 5X40X1	2	4,16
534034*	FADV2MTC6X40X1	Flexibar Advanced 2 m Tinned Copper 6X40X1	2	4,89
534035*	FADV2MTC8X40X1	Flexibar Advanced 2 m Tinned Copper 8X40X1	2	6,33
534036*	FADV2MTC10X40X1	Flexibar Advanced 2 m Tinned Copper 10X40X1	2	7,78
534037	FADV2MTC3X50X1	Flexibar Advanced 2 m Tinned Copper 3X50X1	1	3,37
534038*	FADV2MTC4X50X1	Flexibar Advanced 2 m Tinned Copper 4X50X1	1	4,27
534039*	FADV2MTC5X50X1	Flexibar Advanced 2 m Tinned Copper 5X50X1	1	5,17
534040*	FADV2MTC6X50X1	Flexibar Advanced 2 m Tinned Copper 6X50X1	1	6,07
534041*	FADV2MTC8X50X1	Flexibar Advanced 2 m Tinned Copper 8X50X1	1	7,87
534042*	FADV2MTC10X50X1	Flexibar Advanced 2 m Tinned Copper 10X50X1	1	9,68
534044*	FADV2MTC4X63X1	Flexibar Advanced 2 m Tinned Copper 4X63X1	1	5,34
534045*	FADV2MTC5X63X1	Flexibar Advanced 2 m Tinned Copper 5X63X1	1	6,48
534046*	FADV2MTC6X63X1	Flexibar Advanced 2 m Tinned Copper 6X63X1	1	7,61
534047*	FADV2MTC8X63X1	Flexibar Advanced 2 m Tinned Copper 8X63X1	1	9,88
534048*	FADV2MTC10X63X1	Flexibar Advanced 2 m Tinned Copper 10X63X1	1	12,14
534049*	FADV2MTC4X80X1	Flexibar Advanced 2 m Tinned Copper 4X80X1	1	6,75
534050*	FADV2MTC5X80X1	Flexibar Advanced 2 m Tinned Copper 5X80X1	1	8,19
534051*	FADV2MTC6X80X1	Flexibar Advanced 2 m Tinned Copper 6X80X1	1	9,62
534052*	FADV2MTC8X80X1	Flexibar Advanced 2 m Tinned Copper 8X80X1	1	12,49
534053*	FADV2MTC10X80X1	Flexibar Advanced 2 m Tinned Copper 10X80X1	1	15,37
534055*	FADV2MTC5X100X1	Flexibar Advanced 2 m Tinned Copper 5X100X1	1	10,20
534056*	FADV2MTC6X100X1	Flexibar Advanced 2 m Tinned Copper 6X100X1	1	11,99
534057*	FADV2MTC8X100X1	Flexibar Advanced 2 m Tinned Copper 8X100X1	1	15,57
534058*	FADV2MTC10X100	Flexibar Advanced 2 m Tinned Copper 10X100X1	1	19,16
534059*	FADV2MTC12X100	Flexibar Advanced 2 m Tinned Copper 12X100X1	1	22,74
534060*	FADV2MTC10X120	Flexibar Advanced 2 m Tinned Copper 10X120X1	1	22,90

All **Flexibar Advanced** cross sections can be bent, folded or twisted with a small bending radius for shorter and more compact power connections, from 125A up to 4500A applications.



\*nVent ERIFLEX Patent insulation

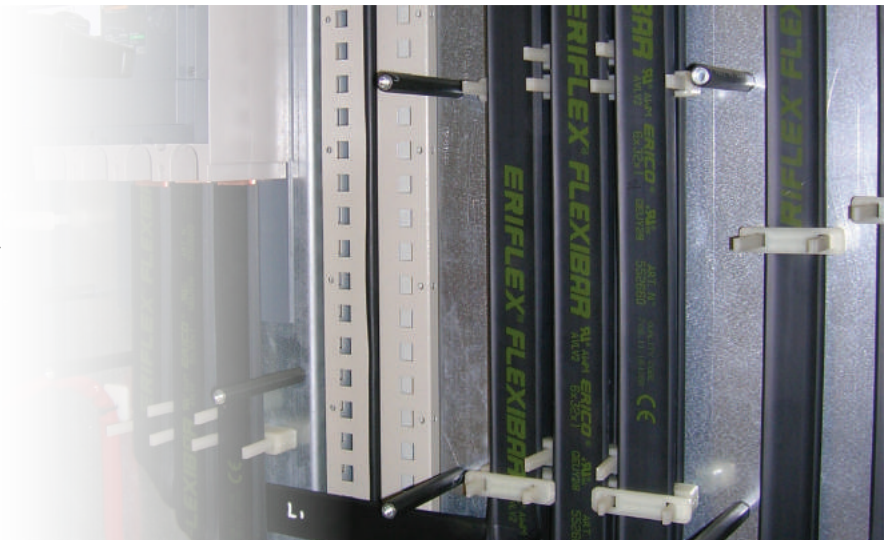
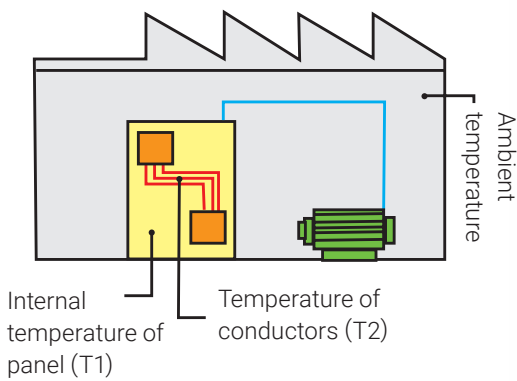
# Flexibar Standard



## FLEXIBAR STANDARD

- Conductor is electrolytic copper (Cu-ETP)
- Insulation is a high-resistance vinyl compound:
  - Elongation: 370%
  - Operating temperature: -50°C -105°C
  - Thickness: 2 mm ± 0,2
  - Self-extinguishing: UL 94 VO
  - Dielectric strength: 20kV/mm
  - Nominal voltage = 1000 V AC/1500 V DC (UL & IEC)

### Selection of Flexibar according to the internal temperature of the panel



### TEMPERATURE RISE OF CONDUCTOR = $T_2 - T_1 = \Delta T$ (K)

Ex: For a current of 630A, with:  $T_1 = 40^\circ\text{C} - T_2 = 90^\circ\text{C}$

- 1)  $\Delta T = 90 - 40 = 50\text{K}$
- 2) In the 50°K column, find the closest current value to 630A.  
Flexibar 5x32x1 - 552650 - 160 mm<sup>2</sup> - 640A.
- 3) Select Flexibar according to the terminal width of the equipment being connected.

K = Kelvin degree (temperature calculated, but not measurable)

### FLEXIBAR IN PARALLEL


When using 2 or 3 Flexibar on edge in parallel for the same phase, use the coefficient:



Ex: 5 x 32 x 1 -  $\Delta T^\circ = 50\text{K}$ : 640 A

2 bars in parallel > 640 A x 1,72 = 1100 A

3 bars in parallel > 640 A x 2,25 = 1440 A

# FLEXIBAR STANDARD TECHNICAL CHARACTERISTICS



A	Part Number	N	Section		mm <sup>2</sup>	ΔT (K)						Current Coefficient	
			A	B		70	60	50	40	30	20		
125 A	552400	8	x 6	x 0,5	24	196	182	166	143	128	105	1,72	2,25
	552410	3	x 9	x 0,8	21,6	158	147	134	120	104	85	1,72	2,25
	552420	6	x 9	x 0,8	43,2	290	269	245	220	190	155	1,72	2,25
	552440	3	x 13	x 0,5	19,5	198	184	167	150	130	106	1,72	2,25
	552390	2	x 15,5	x 0,8	24,8	252	234	212	191	165	134	1,72	2,25
250 A	552430	9	x 9	x 0,8	64,8	314	291	265	237	206	168	1,72	2,25
	552450	6	x 13	x 0,5	39	300	277	253	226	196	160	1,72	2,25
	552460	4	x 15,5	x 0,8	49,6	380	350	320	286	248	202	1,72	2,25
	552490	2	x 20	x 1	40	326	300	275	246	214	174	1,72	2,25
	552500	3	x 20	x 1	60	428	395	360	323	280	228	1,72	2,25
	552550	2	x 24	x 1	48	450	416	380	340	295	240	1,72	2,25
400 A	552470	6	x 15,5	x 0,8	74,4	476	440	402	360	318	254	1,72	2,25
	552480	10	x 15,5	x 0,8	124	538	498	455	407	352	288	1,72	2,25
	552510	4	x 20	x 1	80	476	440	402	360	312	254	1,72	2,25
	552520	5	x 20	x 1	100	498	460	420	376	326	266	1,72	2,25
	552530	6	x 20	x 1	120	546	506	462	413	358	292	1,72	2,25
	552560	3	x 24	x 1	72	490	453	413	370	320	261	1,72	2,25
	552570	4	x 24	x 1	96	550	510	465	416	360	294	1,72	2,25
	552620	2	x 32	x 1	64	480	445	406	363	315	257	1,72	2,25
	552630	3	x 32	x 1	96	570	525	480	430	372	304	1,72	2,25
	552690	2	x 40	x 1	80	538	500	455	406	352	288	1,72	2,25
500 A	552580	5	x 24	x 1	120	608	563	514	460	398	325	1,72	2,25
	552590	6	x 24	x 1	144	670	620	566	506	438	358	1,72	2,25
	552640	4	x 32	x 1	128	648	600	548	490	425	347	1,72	2,25
	552700	3	x 40	x 1	120	617	570	522	466	405	330	1,72	2,25
	552710	4	x 40	x 1	160	727	673	615	550	476	389	1,72	2,25
	552760	3	x 50	x 1	150	700	650	592	530	460	374	1,72	2,25
630 A	552540	10	x 20	x 1	200	762	706	645	576	500	408	1,72	2,25
	552600	8	x 24	x 1	192	802	743	678	606	525	429	1,72	2,25
	552650	5	x 32	x 1	160	758	702	640	573	496	405	1,72	2,25
	552660	6	x 32	x 1	192	846	783	715	640	555	452	1,72	2,25
	552720	5	x 40	x 1	200	900	832	760	680	590	481	1,72	2,25
	552770	4	x 50	x 1	200	860	795	727	650	563	460	1,72	2,25
800 A	552610	10	x 24	x 1	240	948	877	800	716	592	506	1,72	2,25
	552670	8	x 32	x 1	256	1018	943	860	770	667	544	1,72	2,25
	552730	6	x 40	x 1	240	1018	943	860	770	667	544	1,72	2,25
	552780	5	x 50	x 1	250	1100	1016	930	830	718	588	1,72	2,25
	552830	4	x 63	x 1	252	1010	935	855	763	661	541	1,65	2,12
1000 A	552680	10	x 32	x 1	320	1230	1140	1040	930	805	658	1,72	2,25
	552740	8	x 40	x 1	320	1230	1140	1040	930	805	658	1,72	2,25
	552750	10	x 40	x 1	400	1400	1295	1181	1055	915	747	1,72	2,25
	552790	6	x 50	x 1	300	1225	1135	1035	925	802	655	1,72	2,25
	552800	8	x 50	x 1	400	1393	1290	1175	1050	912	743	1,72	2,25
	552840	5	x 63	x 1	315	1220	1125	1030	920	797	651	1,65	2,12
	552850	6	x 63	x 1	378	1437	1330	1215	1085	941	768	1,65	2,12
	552890	4	x 80	x 1	320	1200	1110	1015	906	785	642	1,65	2,12
	552900	5	x 80	x 1	400	1390	1285	1175	1050	910	743	1,65	2,12
	1250 A	552810	10	x 50	x 1	500	1650	1525	1395	1245	1080	882	1,72
552860		8	x 63	x 1	504	1650	1525	1395	1245	1080	882	1,65	2,12
552910		6	x 80	x 1	480	1627	1505	1375	1230	1065	870	1,65	2,12
552950		5	x 100	x 1	500	1635	1515	1385	1235	1070	876	1,6	2,02
552960		6	x 100	x 1	600	1843	1705	1550	1393	1205	980	1,6	2,02
1600 A	552870	10	x 63	x 1	630	1895	1755	1600	1435	1240	1012	1,65	2,12
	552920	8	x 80	x 1	640	1895	1755	1600	1430	1240	1012	1,65	2,12
	552930	10	x 80	x 1	800	2100	1945	1775	1585	1375	1123	1,65	2,12
	552970	8	x 100	x 1	800	2147	1990	1815	1625	1405	1148	1,6	2,02
	552980	10	x 100	x 1	1000	2350	2170	1985	1775	1535	1255	1,6	2,02
	552990	12	x 100	x 1	1200	2500	2315	2115	1890	1636	1338	1,6	2,02
	538650	10	x 120	x 1	1200	2755	2550	2330	2070	1792	1474	1,49	1,95

ADMISSIBLE CURRENTS: This table indicates the temperature rise produced by chosen current in the given section. This calculation does not take into account the heat dissipation from the switch gear.



# Flexibar Standard



## CERTIFICATION & APPROVALS

- International Commission Electrotechnique (IEC) - Meets all requirements of IEC 60439.1 & IEC 61439.1
- UL 67 Recognized component in the "Panelboard and Switchboard accessories - component" category (UL file E125470) for US and Canadian territory
- UL 758 Recognized component in the "Appliance wiring material - component" category style 10531 (UL file E316390) and category style 11343 (UL file E316390)
- Bureau Veritas Certified - No. 02859/DOBV. Ship application
- Canadian Standards Association - CSA certified as appliance wiring material for a maximum of 1000 volts. File N° 090005 (CAN/CSA - C22.2)
- American Bureau of Shipping (ABS) - Certificate No. 08-HS365878-1-PDA-DUP - Marine & Offshore Applications
- CE Conformity
- EAC compliant
- RoHS compliant
- Class II Conductors (IEC 61439-1, Chapter 8.4.4 - Protection by total insulation)

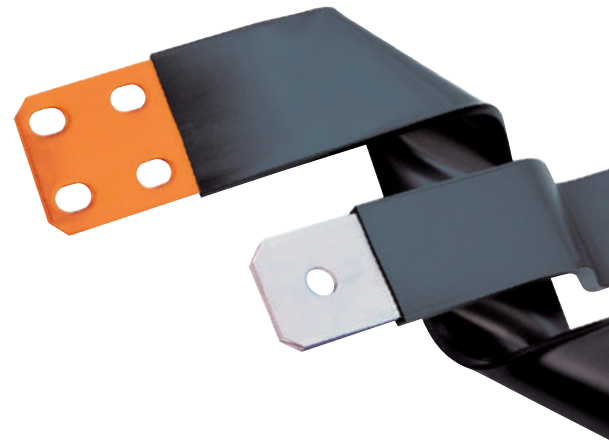


# Flexibar Standard Part Numbers

## 2 METERS RED COPPER



Part Number	Flexibar Description		 Kg
552400	2M 8 x 6 x 0,5	10	0,35
552410	2M 3 x 9 x 0,8	10	0,43
552420	2M 6 x 9 x 0,8	10	0,81
552430	2M 9 x 9 x 0,8	10	1,19
552440	2M 3 x 13 x 0,5	10	0,45
552450	2M 6 x 13 x 0,5	10	0,79
552390	2M 2 x 15,5 x 0,8	10	0,51
552460	2M 4 x 15,5 x 0,8	10	1,02
552470	2M 6 x 15,5 x 0,8	10	1,50
552480	2M 10 x 15,5 x 0,8	10	2,20
552490	2M 2 x 20 x 1	5	1,05
552500	2M 3 x 20 x 1	5	1,42
552510	2M 4 x 20 x 1	5	1,78
552520*	2M 5 x 20 x 1	5	2,15
552530*	2M 6 x 20 x 1	5	2,41
552540*	2M 10 x 20 x 1	5	3,99
552550	2M 2 x 24 x 1	5	1,24
552560	2M 3 x 24 x 1	5	1,68
552570	2M 4 x 24 x 1	5	2,12
552580*	2M 5 x 24 x 1	5	2,55
552590*	2M 6 x 24 x 1	5	2,99
552600*	2M 8 x 24 x 1	5	3,87
552610*	2M 10 x 24 x 1	5	4,75
552620	2M 2 x 32 x 1	5	1,62
552630	2M 3 x 32 x 1	5	2,20
552640	2M 4 x 32 x 1	5	2,78
552650*	2M 5 x 32 x 1	5	3,36
552660*	2M 6 x 32 x 1	5	3,94
552670*	2M 8 x 32 x 1	5	5,10
552680*	2M 10 x 32 x 1	5	6,27
552690	2M 2 x 40 x 1	5	1,99
552700	2M 3 x 40 x 1	5	2,72
552710	2M 4 x 40 x 1	5	3,44
552720*	2M 5 x 40 x 1	5	4,16
552730*	2M 6 x 40 x 1	5	4,89
552740*	2M 8 x 40 x 1	5	6,33
552750*	2M 10 x 40 x 1	5	7,78
552760	2M 3 x 50 x 1	5	3,37
552770*	2M 4 x 50 x 1	5	4,27
552780*	2M 5 x 50 x 1	5	5,17
552790*	2M 6 x 50 x 1	2	6,07
552800*	2M 8 x 50 x 1	2	7,87
552810*	2M 10 x 50 x 1	2	9,68
552830*	2M 4 x 63 x 1	2	5,34
552840*	2M 5 x 63 x 1	2	6,48
552850*	2M 6 x 63 x 1	2	7,61
552860*	2M 8 x 63 x 1	2	9,88
552870*	2M 10 x 63 x 1	2	12,14
552890*	2M 4 x 80 x 1	2	6,75
552900*	2M 5 x 80 x 1	2	8,19
552910*	2M 6 x 80 x 1	2	9,62
552920*	2M 8 x 80 x 1	2	12,49
552930*	2M 10 x 80 x 1	2	15,37
552950*	2M 5 x 100 x 1	2	10,20
552960*	2M 6 x 100 x 1	2	11,99
552970*	2M 8 x 100 x 1	2	15,57
552980*	2M 10 x 100 x 1	2	19,16
552990*	2M 12 x 100 x 1	2	22,74
538650*	2M 10 x 120 x 1	1	22,90

\* nVent ERIFLEX patent insulation





All Flexibar cross sections can be bent, folded or twisted with a small bending radius for shorter and more compact power connections, from 125A up to 4500A applications.

## 3 METERS RED COPPER

Part Number	Flexibar Description		 Kg
541060	3M 4 x 15,5 x 0,8	5	1,53
541090	3M 2 x 20 x 1	5	1,58
541100	3M 3 x 20 x 1	5	2,13
541110	3M 4 x 20 x 1	5	2,67
541150	3M 2 x 24 x 1	5	1,86
541160	3M 3 x 24 x 1	5	2,52
541170	3M 4 x 24 x 1	5	3,18
541180*	3M 5 x 24 x 1	5	3,83
541230	3M 3 x 32 x 1	2	3,30
541240	3M 4 x 32 x 1	2	4,17
541250*	3M 5 x 32 x 1	2	5,04
541260*	3M 6 x 32 x 1	2	5,91
541270*	3M 8 x 32 x 1	2	7,65
541320*	3M 5 x 40 x 1	2	6,24
541380*	3M 5 x 50 x 1	2	7,76

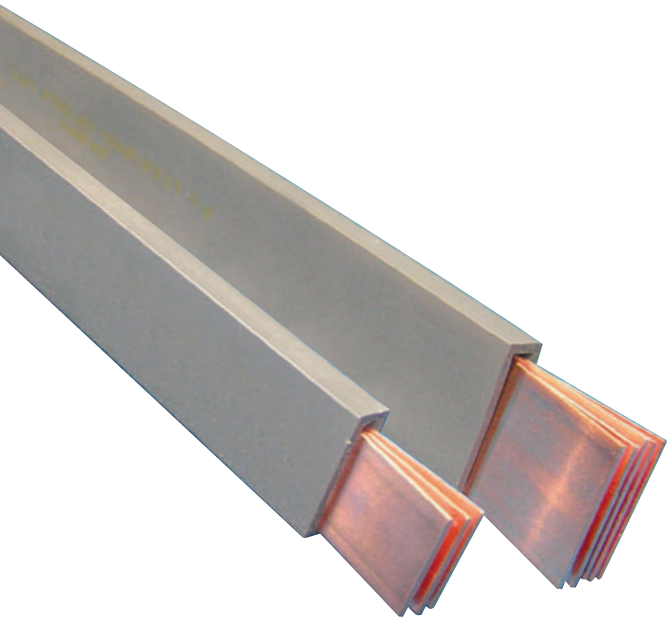
\* ERIFLEX patent insulation

## 3 METERS TINNED COPPER

Part Number	Flexibar Description		 Kg
505501	3MTC 2 x 20 x 1	5	1,58
505502	3MTC 3 x 20 x 1	5	2,13
505503	3MTC 4 x 20 x 1	5	2,67
505506	3MTC 2 x 24 x 1	5	1,86
505507	3MTC 3 x 24 x 1	5	2,52
505508	3MTC 4 x 24 x 1	5	3,18
505509*	3MTC 5 x 24 x 1	5	3,83
505510*	3MTC 6 x 24 x 1	5	4,48
505514	3MTC 3 x 32 x 1	2	3,30
505515	3MTC 4 x 32 x 1	2	4,17
505516*	3MTC 5 x 32 x 1	2	5,04
505517*	3MTC 6 x 32 x 1	2	5,91
505518*	3MTC 8 x 32 x 1	2	7,65
505519*	3MTC 10 x 32 x 1	2	9,40
505523*	3MTC 5 x 40 x 1	2	6,24
505526*	3MTC 10 x 40 x 1	2	11,67

\*nVent ERIFLEX patent insulation

# Flexibar Summum



## FLEXIBAR SUMMUM

HALOGEN FREE - HIGH TEMPERATURE

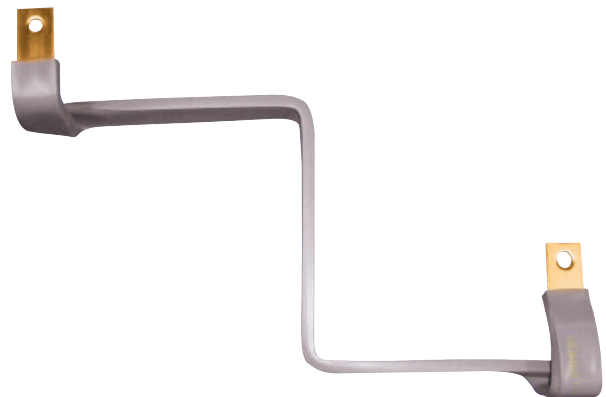
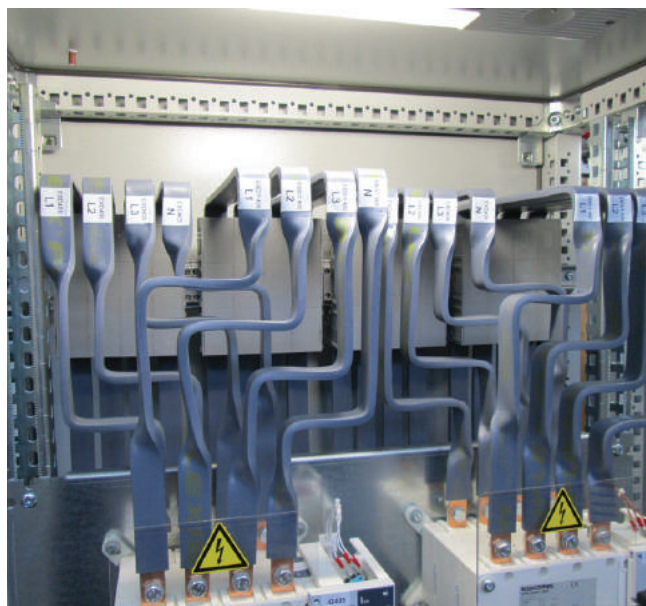
- Halogen-free
- High current density
- High ambient temperature
- High flexibility
- High insulation value



## FLEXIBAR SUMMUM

- Conductor in electrolytic copper
  - Laminates thickness 1 mm
- Insulation in silicone compound
  - Working temperature: -50°C up to 280°C (315°C short time)
  - Low smoke
  - Very high UV & ozone withstanding
  - Self-extinguishing: UL 94 V 0
  - Elongation: 400% minimum
  - Tear resistance: 20 KN/m minimum
  - Thickness: 2 mm ± 0.2 mm
  - Dielectric strength: 20 KV/mm
  - Maximum continuous voltage: 1000 V AC/ 1500 V DC
  - American Bureau of Shipping (ABS) - Certificate No. 08-HS365878-1-PDA-DUP - Marine & Offshore Applications
  - IEC 60439.1
  - IEC 61439.1.





On request: Tinned Flexibar Summum







## 2 METER RED COPPER

Part Number	Flexibar Description		 Kg	Section mm <sup>2</sup>	IEC® Ampacity ΔT (°k)					Current Coefficient	
					70	60	50	40	30		
566490	Flexibar Summum 2 M 2 x 20 x 1	5	1,05	40	326	300	275	246	214	1,72	2,25
566500	Flexibar Summum 2 M 3 x 20 x 1	5	1,42	60	428	395	360	323	280	1,72	2,25
566510	Flexibar Summum 2 M 4 x 20 x 1	5	1,78	80	476	440	402	360	312	1,72	2,25
566520	Flexibar Summum 2 M 5 x 20 x 1	5	2,15	100	498	460	420	376	326	1,72	2,25
566550	Flexibar Summum 2 M 2 x 24 x 1	5	1,24	48	450	416	380	340	295	1,72	2,25
566560	Flexibar Summum 2 M 3 x 24 x 1	5	1,68	72	490	453	413	370	320	1,72	2,25
566570	Flexibar Summum 2 M 4 x 24 x 1	5	2,12	96	550	540	465	416	360	1,72	2,25
566580	Flexibar Summum 2 M 5 x 24 x 1	5	2,55	120	608	563	514	460	398	1,72	2,25
566590	Flexibar Summum 2 M 6 x 24 x 1	5	2,99	144	670	620	566	506	438	1,72	2,25
566630	Flexibar Summum 2 M 3 x 32 x 1	5	2,2	96	570	525	480	430	372	1,72	2,25
566640	Flexibar Summum 2 M 4 x 32 x 1	5	2,78	128	648	600	548	490	425	1,72	2,25
566650	Flexibar Summum 2 M 5 x 32 x 1	5	3,36	160	758	702	640	573	496	1,72	2,25
566660	Flexibar Summum 2 M 6 x 32 x 1	5	3,94	192	846	783	715	640	555	1,72	2,25
566670	Flexibar Summum 2 M 8 x 32 x 1	5	5,1	256	1018	943	860	770	667	1,72	2,25
566720	Flexibar Summum 2 M 5 x 40 x 1	5	4,16	200	900	832	760	680	590	1,72	2,25
566730	Flexibar Summum 2 M 6 x 40 x 1	5	4,89	240	1018	943	860	770	667	1,72	2,25
566750	Flexibar Summum 2 M 10 x 40 x 1	5	7,78	400	1400	1295	1181	1055	915	1,72	2,25
566780	Flexibar Summum 2 M 5 x 50 x 1	5	5,17	250	1100	1016	930	830	718	1,72	2,25
566800	Flexibar Summum 2 M 8 x 50 x 1	2	7,87	400	1393	1290	1175	1050	912	1,72	2,25
566810	Flexibar Summum 2 M 10 x 50 x 1	2	9,68	500	1650	1525	1395	1245	1080	1,72	2,25

ADMISSIBLE CURRENTS: This table indicates the temperature rise produced by chosen current in the given section. This calculation does not take into account the heat dissipation from the switch gear.

Some photographs in the Flexibar Summum section may actually be using Flexibar

# Accessories



## FLEXIBAR STANDARD KITS

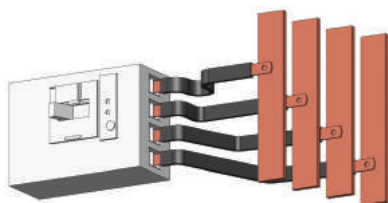
- Application: connections between busbar and fixed switchgear
- Kit is comprised of Flexibar Standard preformed and punched at the 2 extremities & end covers
- Only 1 kit for 3 configurations
- Intensity range: from 250A to 630A



## END COVER 20, 24 & 32

- **End Cover 20:** Kit 250A T, Kit 250A TN, IBS 25, IBS 50, IBSB 50 and IBSB 70.
- **End Cover 24:** 24 mm and IBSB 100
- **End Cover 32:** Kit 630A T, Kit 630A TN, IBSBR 120, 185 and 240.
- Transparent cover Visual inspection
- Halogen-free
- Self-extinguishing: UL 94 V-0
- RoHS compliant
- Easy-fitting after bolting
- IEC 60439.1
- IEC 61439.1

## FLEXIBAR STANDARD KIT 250A

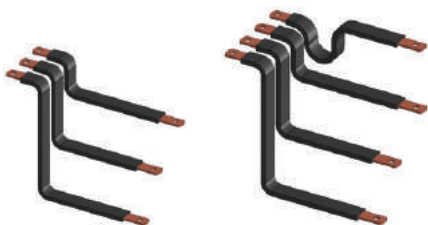


3 Phases

3 Phases + Neutral

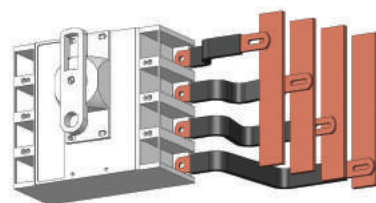
Kit 250A T

Kit 250A TN



Part No.	Description		Kg/lbs
541800	Kit 250A T	1	0,76/1.68
541805	Kit 250A TN	1	0,98/2.16

## FLEXIBAR STANDARD KIT 630A

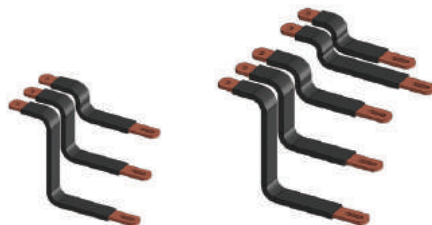


3 Phases

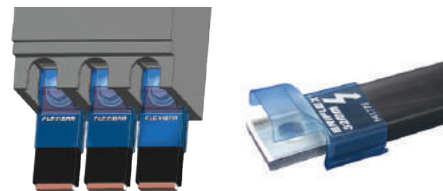
3 Phases + Neutral

Kit 630A T

Kit 630A TN



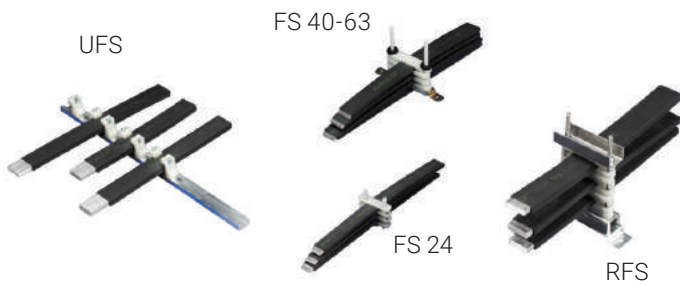
Part No.	Description		kg/lbs
541810	Kit 630A T	1	2,10/4.63
541815	Kit 630A TN	1	3,10/6.83



Part No.	Description		kg/lbs
541774	End Cover 20	12	0,19/0.42
541775	End Cover 24	12	0,22/0.48
541776	End Cover 32	12	0,26/0.57



# Accessories



### SPACER CLAMPS

- Easy to install
- Fixes and maintains the weight of Flexibar range
- Facilitates cooling



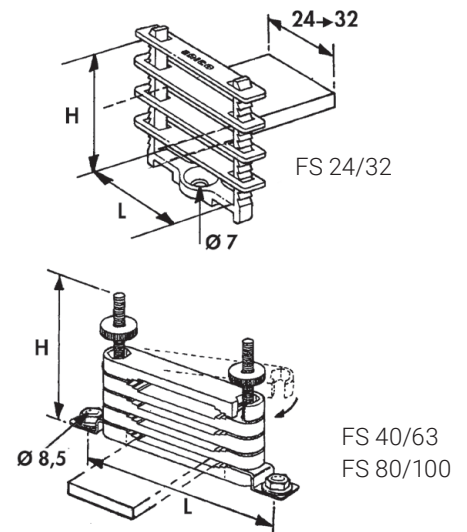
### UFS KIT SUPPORT

Assembly comprised of a 2 m aluminum section and 24 retaining blocks made of glass-reinforced halogen-free polyamide.

- Possible to make up 3 supports, 650 mm long each for 4 Flexibar range
- Recommended distance between clamps: 400 mm max.

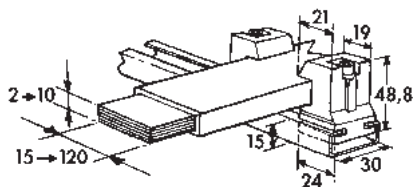
### FS SPACER CLAMP

- Ensures correct support for Flexibar range, IBSB & IBSBR in parallel, without damage to the insulation.
- Maintains correct space for optimum cooling.
- 4 Flexibar range in parallel maximum
- UL 67
- Recommended distance between clamps: 400 mm



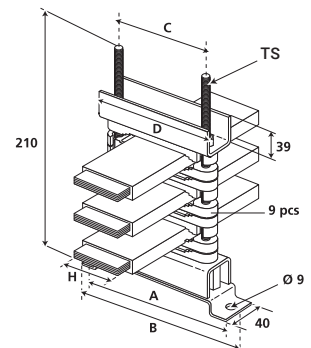
Part No.	Description	Type*	H mm	L mm		Kg
553550	FS 24	=< 24 mm	53	30	25	0,015
553560	FS 32	=< 32 mm	53	38	25	0,018
553570	FS 40-63	40-50 & 63 mm	95	150	10	0,100
553580	FS 80-100	80/100 mm	140	200	10	0,250

\* Type of Flexibar and IBS/IBSB/IBSBR



### RFS REINFORCED SUPPORT

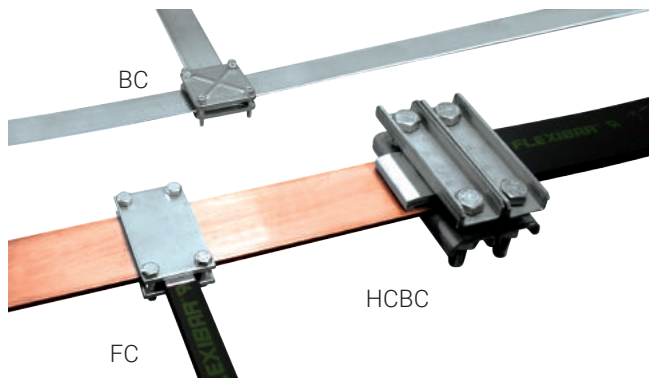
- Allows up to 8 Flexibar range in parallel.
- Easy mounting in the panel. (25 mm pitch)
- Recommended distance between clamps: 400 mm



Part No.	Description		Kg
553590	UFS Kit	1	2,3

Part No.	Description	A mm	B mm	C mm	D mm	TS	Flexibar H mm		Kg
553370	RFS 40-63	150	175	90	120	M8	40=>63	1	0,932
553380	RFS 80-100	200	225	140	170	M10	80=>100	1	1,430

# Accessories

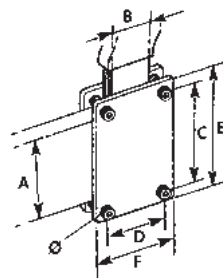


## CONNECTING CLAMPS

- Excellent electrical contact
- Saves space
- Fast installation
- Ideal for "on site" modifications

### FC CLAMP

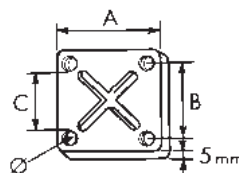
- Clamping capacity: 20 mm
- 2 zinc plated steel plates complete with M8 screws 8.8 class



Part No.	Description	A mm	B mm	C mm	D mm	E mm	F mm	Torque N.m		Kg
553020	FC 50 x 24	50	20-24	60	36	75	52	10	3	0,319
553030	FC 50 x 32	50	32	60	44	75	60	10	3	0,362
553040	FC 50 x 40	50	40	60	52	75	68	10	3	0,412
553050	FC 80 x 24	80	20-24	90	36	105	52	10	3	0,432
553060	FC 80 x 32	80	32	90	44	105	60	10	3	0,492
553070	FC 80 x 50	80	50	90	62	105	78	10	3	0,642
568700	FC 100 x 32	100	32	110	44	125	60	10	3	0,670
568730	FC 120 x 32	120	32	130	44	145	60	10	3	0,760

### BC RIBBED-STEEL BUSBAR CLAMP

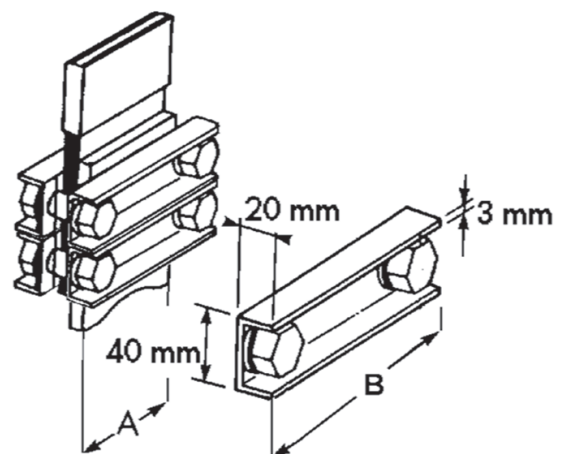
- Clamping capacity: 20 mm
- 2 ribbed zinc-plated hardened-steel plates complete with screws
- Maximum clamping capacity is 50 mm using longer screws 8.8 class
- UL 67 recognized



Part No.	Description	A mm	B mm	C mm	Ø mm	Torque N.m		Kg
553200	BC 30	56	42	30	M6	7	8	0,31
553210	BC 40	66	52	40	M6	7	8	0,37
553220	BC 50	83	64	50	M8	20	8	0,59
553230	BC 63	93	74	63	M8	20	4	0,74
553250	BC 80	118	96	80	M10	40	4	0,118
553260	BC 100	144	118	100	M10	40	4	1,72

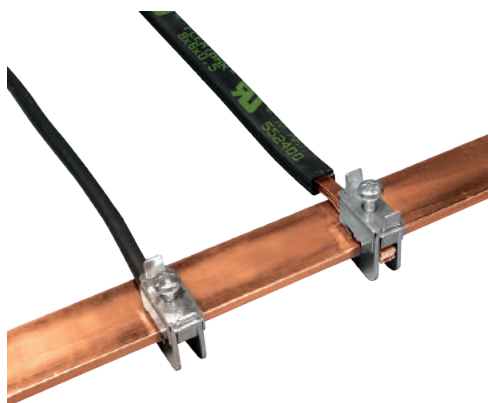
### HCBC HIGH CURRENT BUSBAR CLAMP

- Clamping capacity: 40 mm
- This modular busbar clamp is designed with non-magnetic materials for high current connections between Flexibar range and rigid busbars such as transformer terminals
- Design assures rigidity and even contact pressure
- Use 2 clamps to guarantee the contact pressure



Part No.	Description	A mm	B mm	Torque N.m		Kg
553100	HSBC 80	80	140	100	1	0,84
553110	HSBC 100	100	160	100	1	0,92
553120	HSBC 120	120	180	100	1	1,00

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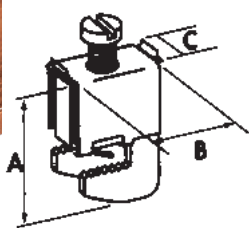
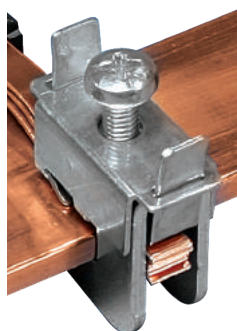
## FBC CONNECTORS FOR CONNECTING WITHOUT DRILLING

- Very compact for connection without drilling to a 5 mm or 10 mm thick busbar
- Cables from 1 mm<sup>2</sup> up to 185 mm<sup>2</sup> or Flexibar range width 6 mm to 20 mm
- Self-support of connector during mounting procedure
- IEC 60 999

## FLEXIBAR TYPE

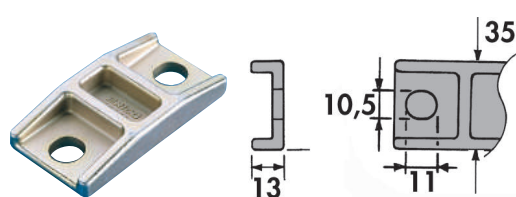
Connectors for busbar thickness 5 mm

Part No.	Description	A mm	B mm	C mm	Flexibar Type (mm)	Torque N.m	Cable Size mm <sup>2</sup>		Kg
553405	FBC 5 x 4	23	29	11	-	2	1 - 4	15	0,016
553400	FBC 5 x 6	28	31	14	6	3	2,5 - 16	15	0,028
553410	FBC 5 x 9	36	40	19	9	6-8	16 - 50	15	0,068
553510	FBC 5 x 15,5	44	40	25	15,5	10-12	35 - 70	15	0,110
553520	FBC 5 x 20	48	40	31	20	12-15	70 - 185	15	0,132



Connectors for busbar thickness 10 mm

Part No.	Description	A mm	B mm	C mm	Flexibar Type (mm)	Torque N.m	Cable Size mm <sup>2</sup>		Kg
553505	FBC 10 x 4	28	29	12	-	2	1 - 4	15	0,018
553430	FBC 10 x 6	33	31	14	6	3	2,5 - 16	15	0,030
553440	FBC 10 x 9	42	40	19	9	6 - 8	16 - 50	15	0,070
553530	FBC 10 x 15,5	49	40	25	15,5	10 - 12	35 - 70	15	0,112
553540	FBC 10 x 20	54	40	31	20	12 - 15	70 - 185	15	0,138



## QCC CLAMPS

- For Flexibar thickness < 5 mm = 1 clamp
- For Flexibar thickness > 5 mm = 2 clamps

Part No.	Description	Flexibar width		L mm	F mm		Kg
		min. mm	max. mm				
561210	QCC 15,5/32	15,5	32	70	50	5	0,112
561220	QCC 40/63	40	63	95	75	5	0,158

## CONT KIT METAL NUTS AND BOLTS



- Contact Kit
- Enhanced electrical contact
  - 100 nuts - 100 bolts - 200 flat washers
  - 200 contact washers (class 8/8 ZN8C protection)

Part No.	Description	Dimensions	Torque N.m		Kg
558310	Cont Kit M6 x 16	HM 6 x 16	13	100	0,012
558340	Cont Kit M8 x 30	HM 8 x 30	30	100	0,028
558370	Cont Kit M10 x 30	HM 10 x 30	60	100	0,052
558410	Cont Kit M10 x 50	HM 10 x 50	60	100	0,062
558440	Cont Kit M12 x 30	HM 12 x 30	110	100	0,081
558460	Cont Kit M12 x 40	HM 12 x 40	110	100	0,091
558480	Cont Kit M12 x 50	HM 12 x 50	110	100	0,097
567880	Cont Kit M12 x 60	HM 12 x 60	110	100	0,116
558490	Cont Kit M12 x 80	HM 12 x 80	110	100	0,150

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