



Single Core Conductor BETAtherm[®] 155

Description BETAtherm[®] 155 is a flexible low-voltage conductor consisting of a tinned copper stranded wire insulated with coloured electron-beam cross-linked polyolefine copolymer.

Properties Due to its electron-beam cross-linked insulation, BETAtherm[®] 155 achieves a special thermal resistance required for Class F. This results in excellent thermal resistance. However, it cannot even be melted at elevated temperatures. Skinning is simple and also possible at machines.
BETAtherm[®] cables are resistant to all common insulating varnishes. They are flame retardant.

Application BETAtherm[®] 155 can be used for the internal wiring of all electric machines and dry transformers, as well as in apparatus, machine and plant engineering and lighting applications.
Due to the high thermal load capacity, it might be possible to reduce the conductor cross section and, therefore, save space and reduce the weight.

Standards Thermal class F (155 °C)
VDE 0295 / IEC 60228, class 5
RoHS compliant according to 2002/95 EC

Conductor Tinned copper wire VDE 0295/ IEC 60228 class 5.
The dimensions specified in the technical datasheet are regarded as standard values. The actual cross sections may vary. The cables are manufactured according to European standards with a metric conductor cross section, AWG sizes are approximate values and viceversa.
Always observe relevant standards valid for divergent operating conditions when laying for greater limit current loads.

Delivery format Conductor cross section: Format
mm² Length in m on a ring
0.25 - 0.75 200

BETAtherm[®] is a registered trademark of Leoni Studer AG

The information on this data sheet is based on the information provided by our supplier. It is offered for service purposes and addressed to experts who use it at their own discretion and at their own risk. We do not guarantee results, or accept liability for the indicated specifications or for results obtained based on the specifications.

Synflex Elektro GmbH
Auf den Kreuzen 24
D-32825 Blomberg
Tel.: +49 / 5235 / 968-0
Fax: +49 / 5235 / 968-222
E-Mail: info@synflex.de
Internet: <http://www.synflex.de>



1.0 - 10.0 100
16.0 - 25.0 50
35.0 - 95.0 25
Other cross sections available on request

Color Green/yellow, black, light blue, dark blue, brown, red,
white, grey, violet, orange, yellow, green.
Other colours, also two colours, available on request.

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Updated 02/09



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Technical data

Mechanical		
Bend radius		4 x outer Ø
Soldering resistance		Very good

Thermal		
Thermal class		F
Temperature range fixed application		-55 bis +155 °C / +150 °C UL 3289
Temperature range Short circuit		+280 °C
Thermal resistance		IEC 60216-2 / VDE 304 T 21(155 °C/5000h)
Burning behaviour		Flame retardant IEC 60332-1, VDE0472 T. 804 B

Chemical		
Insulation		Electron-beam cross-linked polyolefine copolymer
Resistance		Resistant to common impregnants

Dimension						
Nominal cross section	mm ²	0,25	0,5	0,75	1	
Strands x diameter	mm ²	14 x 0,15	16 x 0,20	24 x 0,20	32 x 0,20	
Cu cable diameter	mm	0,66	0,90	1,15	1,25	
Wall thickness Desired	mm	0,45	0,48	0,53	0,58	
Wall thickness min.	mm	0,35	0,35	0,35	0,40	
Outer diameter	mm	1,55 ± 0,10	1,85 ± 0,20	2,20 ± 0,20	2,40 ± 0,20	

Dimension						
Nominal cross section	mm ²	1,5	2,5	4	6	
Strands x diameter	mm ²	27 x 0,25	45 x 0,25	52 x 0,30	78 x 0,30	
Cu cable diameter	mm	1,55	2,05	2,55	3,10	
Wall thickness Desired	mm	0,70	0,80	0,80	0,80	

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Dimension					
Wall thickness min.	mm	0,53	0,62	0,62	0,62
Outer diameter	mm	2,95 ± 0,20	3,65 ± 0,20	4,15 ± 0,20	4,70 ± 0,20

Dimension					
Nominal cross section	mm ²	10	16	25	35
Strands x diameter	mm ²	75 x 0,40	119 x 0,40	182 x 0,40	259 x 0,40
Cu cable diameter	mm	4,10	5,50	6,60	7,70
Wall thickness Desired	mm	1,00	1,00	1,20	1,20
Wall thickness min.	mm	0,80	0,80	0,98	0,98
Outer diameter	mm	6,10 ± 0,20	7,50 ± 0,40	9,00 ± 0,40	10,10 ± 0,40

Dimension					
Nominal cross section	mm ²	50	70	95	
Strands x diameter	mm ²	380 x 0,40	342 x 0,50	456 x 0,50	
Cu cable diameter	mm	9,90	11,90	13,20	
Wall thickness Desired	mm	1,40	1,40	1,60	
Wall thickness min.	mm	1,16	1,16	1,34	
Outer diameter	mm	12,70 ± 0,40	14,70 ± 0,40	16,40 ± 0,60	

Electrical		
Rated voltage	V	U _{0/U} 300/500 V ≤ 1 mm ²
Rated voltage	V	U _{0/U} 450/750 V ≥ 1,5 mm ²
Nominal voltage with fixed and protected application		U _{0/U} 600/1000 V ≥ 1,5 mm ²
Nominal voltage with fixed and protected application		U _{0/U} 600/600 V UL 3289
Testing voltage	V	5000 V/ 50 Hz/ 2 min

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