

# MEASURING AND CONTROL CABLES

As data transmission cable for transmission rates up to 10 kHz,  
mainly in power stations and other industrial plants.

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## RD-Y(St)Y ... Bd

### Process control cable

Construction and core identification referring to  
DIN VDE 0815



### APPLICATION

As data transmission cable for transmission rates up to 10 kHz, mainly in power stations and other industrial plants.

### CONSTRUCTION

**Conductor:** copper strand, bare, flexible

0,5 mm<sup>2</sup>: strand 7x0,30 mm; Ø=0,9 mm

1,0 mm<sup>2</sup>: strand 7x0,43 mm; Ø=1,3 mm

**Core insulation:** PVC

**Core stranding:** 4 pairs to lay up, bundled with numbered tape, bundles to lay up

**Lapping:** plastic foil

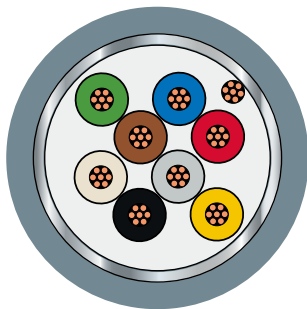
**Screen:** earth wire copper strand, tinned 7x0,3 mm; plastic-laminated aluminium foil

**Sheath:** PVC; colour: preferably grey RAL 7000; other colours upon request; special outer sheath design: **RD-Y(St)Y-FR** compound increased flame-resistant acc. to IEC 60332-3-22

### BEHAVIOR UNDER FIRE CONDITIONS

RD-Y(St)Y acc. to IEC 60332-3-24

RD-Y(St)Y-FR acc. to IEC 60332-3-22



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	article number
2x2x0,5	1,0	6,8	58	25	10376200
4x2x0,5	1,0	8,7	93	45	10376300
8x2x0,5	1,0	11,0	155	85	10376400
12x2x0,5	1,0	12,5	210	125	10376500
16x2x0,5	1,2	14,0	275	165	10376600
20x2x0,5	1,2	15,0	330	205	10376700
24x2x0,5	1,2	16,3	385	245	10444700
32x2x0,5	1,4	20,0	525	325	10410100
40x2x0,5	1,4	21,5	630	405	10544900
48x2x0,5	1,4	22,5	730	485	10544800
80x2x0,5	1,8	30,8	1230	805	
96x2x0,5	1,8	32,0	1430	965	19728800
2x2x1,0	1,0	7,8	90	51	10952500
4x2x1,0	1,0	10,6	155	91	10952600
8x2x1,0	1,2	14,6	290	171	10952700
12x2x1,0	1,2	15,5	390	252	10952800
16x2x1,0	1,4	19,6	515	332	10436700
20x2x1,0	1,4	20,4	625	413	10952900
24x2x1,0	1,4	23,6	740	493	10953000
32x2x1,0	1,6	28,4	995	654	10953100
40x2x1,0	1,6	31,5	1240	816	10953200
48x2x1,0	1,6	31,8	1430	977	10953300
60x2x1,0	1,8	34,7	1750	1617	

### ELECTRICAL CHARACTERISTICS

(Conductor) loop resist. max. 0,5 mm <sup>2</sup>	78,4 Ω/km
(Conductor) loop resist. max. 1,0 mm <sup>2</sup>	36,8 Ω/km
Insulation resistance min.	100 MΩ x km
Char. impedance (10 kHz) 0,5 mm <sup>2</sup>	130 Ω
Char. impedance (10 kHz) 1,0 mm <sup>2</sup>	100 Ω
Mutual capacitance (800 Hz) max. up to 4 DA max.	100 nF/km 120 nF/km
Capacitance unbalance (800 Hz) max.	200 pF/100 m
Crosstalk attenuation (10 kHz) min.	60 dB/500 m
Wave attenuation (10 kHz) 0,5 mm <sup>2</sup>	2,8 dB/km
Wave attenuation (10 kHz) 1,0 mm <sup>2</sup>	1,2 dB/km
Peak operating voltage	600 V
Test voltage core-core	2000 V 50 Hz 2 min
Test voltage core-screen	2000 V 50 Hz 2 min

### THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	-5°C to +50°C
Temperature range stationary	max. +70°C
Minimum bending radius	7,5 x diameter

We reserve changes which serve technical progress • Copper base 100,00 €/ 100,00 kg  
Price upon quantity-specific request

## RD-Y(St)YY ... Bd

### Process control cable

Construction and core identification referring to  
DIN VDE 0815



### APPLICATION

As data transmission cable for transmission rates up to 10 kHz, mainly in power stations and other industrial plants.

### CONSTRUCTION

**Conductor:** copper strand, bare, flexible;  
7 x 0,3 mm = 0,5 mm; Ø = 0,9 mm

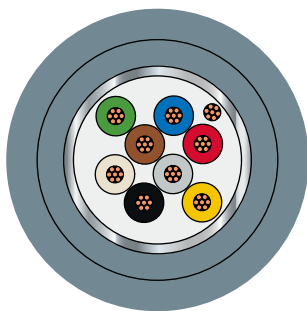
**Core insulation:** PVC

**Core stranding:** 4 pairs to lay up, bundled with numbered tape, bundles to lay up

**Lapping:** plastic foil

**Screen:** earth wire copper strand, tinned 7 x 0,3 mm; plastic-laminated aluminium foil

**Sheath:** PVC; colour preferably grey, RAL 7000; deviant colours of 2nd outer sheath according to order, (e.g. also RAL 9005)



dimension	Mantelwanddicke ca. mm (NW)	diameter appr. mm (RW)	cable weight ca. kg/km	copper index kg/km	article number
2x2x0,5	2,0	9,0	100	25	10045900
4x2x0,5	2,0	11,2	145	45	10046000
8x2x0,5	2,0	13,2	215	85	10046100
12x2x0,5	2,0	14,5	275	125	10046200
16x2x0,5	2,2	16,0	350	165	10046300
20x2x0,5	2,2	17,2	410	205	10046400
24x2x0,5	2,2	18,5	475	245	10170900
32x2x0,5	2,4	22,0	630	325	19735800
40x2x0,5	2,4	23,5	740	405	10439900
48x2x0,5	2,4	24,5	850	485	10171000
80x2x0,5	2,8	33,0	1395	805	
96x2x0,5	2,8	32,0	1430	966	

### ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	78,4 Ω/km
Insulation resistance min.	100 MΩ x km
Characteristic impedance (10 kHz)	130 Ω
Mutual capacitance (800 Hz) max. up to 4 DA max.	100 nF/km 120 nF/km
Capacitance unbalance (800 Hz) max.	200 pF/100 m
Crosstalk attenuation (10 kHz) min.	60 dB/500 m
Peak operating voltage	600 V
Test voltage core-core	2000 V 50 Hz 2 min
Test voltage core-screen	2000 V 50 Hz 2 min

### BEHAVIOR UNDER FIRE CONDITIONS

acc. to IEC 60332-3

### THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	-5°C to +50°C
Temperature range stationary	max. +70°C
Minimum bending radius	10 x diameter

We reserve changes which serve technical progress • Copper base 100,00 €/ 100,00 kg  
Price upon quantity-specific request

## RD-Y(St)Yv ... Bd

**Measuring and control cable with reinforced sheath  
Construction and core identification referring to  
DIN VDE 0815**



### APPLICATION

As data transmission cable for transmission rates up to 10 kHz, mainly in power stations and other industrial plants.

### CONSTRUCTION

**Conductor:** copper strand, bare, flexible;  
0,5 mm<sup>2</sup>: 7 x 0,3 mm; Ø = 0,9 mm

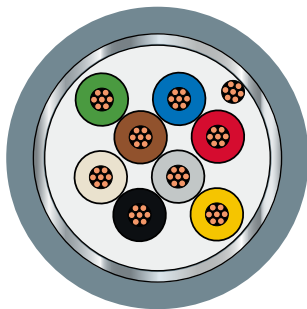
**Core insulation:** PVC

**Core stranding:** 4 pairs to lay up, bundled with numbered tape, bundles to lay up

**Lapping:** plastic foil

**Screen:** earth wire copper strand, tinned 7 x 0,3 mm; plastic-laminated aluminium foil

**Sheath:** PVC; colour: preferably grey RAL 7000



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	article number
2x2x0,5	1,8	8,5	90	25	10805600
4x2x0,5	1,8	10,5	130	45	10805700
8x2x0,5	1,8	13,0	200	85	10805800
12x2x0,5	1,8	13,8	260	125	10805900
16x2x0,5	1,8	15,0	315	165	10806000
20x2x0,5	1,8	16,2	375	205	
24x2x0,5	1,8	17,5	435	245	10410200
32x2x0,5	1,8	20,5	560	325	10804900
40x2x0,5	1,8	22,0	675	405	10034400
48x2x0,5	1,8	23,0	775	485	10034700
80x2x0,5	2,0	31,0	1265	805	

### ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	78,4 Ω/km
Insulation resistance min.	100 MΩ x km
Characteristic impedance (10 kHz)	130 Ω
Mutual capacitance (800 Hz) max.	100 nF/km
bei Kabeln bis bei 4 DA	120 nF/km
Capacitance unbalance (800 Hz) max.	200 pF/100 m
Crosstalk attenuation (10 kHz) min.	60 dB/500 m
Peak operating voltage	600 V
Test voltage core-core	2000 V 50 Hz 2 min
Test voltage core-screen	2000 V 50 Hz 2 min

### THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	-5°C to +50°C
Temperature range stationary	max. +70°C
Minimum bending radius	10 x diameter

We reserve changes which serve technical progress • Copper base 100,00 €/ 100,00 kg  
Price upon quantity-specific request

## RD-H(St)H ... Bd

**Halogen-free measuring and control cable**  
**Construction and core identification referring to**  
**DIN VDE 0815**



### APPLICATION

As data transmission cable for transmission rates up to 10 kHz, mainly in power stations and other industrial plants.

### CONSTRUCTION

**Conductor:** copper strand, bare, flexible

0,5 mm<sup>2</sup>: 7 x 0,30 mm; Ø = 0,9 mm

1,0 mm<sup>2</sup>: 7 x 0,43 mm; Ø = 1,3 mm

**Core insulation:** halogen-free compound

**Core stranding:** 4 pairs to lay up, bundled with numbered tape, bundles to lay up

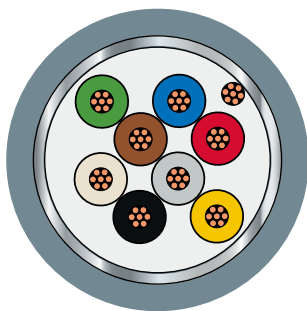
**Lapping:** plastic foil

**Screen:** earth wire: copper strand, tinned 7 x 0,30 mm; plastic-laminated aluminium foil

**Sheath:** halogen-free compound; colour: preferably grey RAL 7000; deviant colours according to order

### BEHAVIOR UNDER FIRE CONDITIONS

acc. to IEC 60332-3



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	article number
2x2x0,5	1,0	6,0	60	25	10490300
4x2x0,5	1,0	8,0	95	45	10490400
8x2x0,5	1,0	11,0	160	85	10490500
12x2x0,5	1,0	12,0	210	125	19084494
16x2x0,5	1,0	12,8	260	165	10491600
20x2x0,5	1,0	14,0	320	205	10492100
24x2x0,5	1,0	15,5	370	245	19084497
32x2x0,5	1,2	19,5	510	325	19084498
40x2x0,5	1,2	21,0	610	405	
48x2x0,5	1,2	22,0	720	485	19084500
2x2x1,0	1,2	8,0	95	51	19722100
4x2x1,0	1,2	10,7	165	91	10269400
8x2x1,0	1,4	15,5	305	171	10269600
12x2x1,0	1,4	16,5	410	252	
16x2x1,0	1,6	18,5	540	332	10491800
20x2x1,0	1,6	20,5	650	413	19750600
24x2x1,0	1,6	22,0	760	493	
32x2x1,0	1,8	28,0	1030	654	19750800
40x2x1,0	2,0	30,0	1270	816	
48x2x1,0	2,0	32,0	1500	977	

### ELECTRICAL CHARACTERISTICS

(Conductor) loop resist. max. 0,5 mm<sup>2</sup> 78,4 Ω/km

(Conductor) loop resist. max. 1,0 mm<sup>2</sup> 36,8 Ω/km

Insulation resistance min. 100 MΩ x km

Char. impedance (10 kHz) 0,5 mm<sup>2</sup> 130 Ω

Char. impedance (10 kHz) 1,0 mm<sup>2</sup> 100 Ω

Mutual capacitance (800 Hz) max. 120 nF/km

up to 4 DA max. 140 nF/km

Capacitance unbalance (800 Hz) max. 200 pF/100 m

Wave attenuation (10 kHz) 0,5 mm<sup>2</sup> 2,8 dB

Wave attenuation (10 kHz) 1,0 mm<sup>2</sup> 1,2 dB

Crosstalk attenuation (10 kHz) min. 60 dB/500 m

Peak operating voltage 600 V

Test voltage core-core 2000 V 50 Hz 2 min

Test voltage core-screen 2000 V 50 Hz 2 min

### THERMAL & MECHANICAL PROPERTIES

Temperature range during installation -5°C to +50°C

Temperature range stationary -30°C to +70°C

Minimum bending radius 7,5 x diameter

We reserve changes which serve technical progress • Copper base 100,00 €/ 100,00 kg  
 Price upon quantity-specific request

## RD-HCH ... Bd

**Measuring and control cable**  
**Construction and core identification referring to**  
**DIN VDE 0815**



### APPLICATION

Data transmission cable, mainly in power stations and other industrial plants. For outdoor use when protected against direct sunlight or as UV resistant design (RD-HCHuv).

### CONSTRUCTION

**Conductor:** copper strand, bare, flexible  
 0,5 mm<sup>2</sup>: strand 7x0,30 mm; Ø=0,9 mm

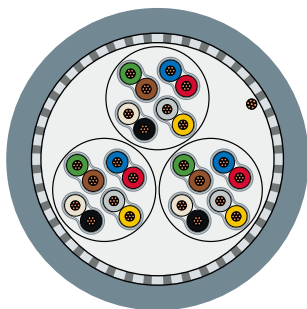
**Core insulation:** halogen-free compound

**Core stranding:** 2 cores to pair; 4 pairs to lay up; bundled with numbered tape, Bundles to lay up; 2-paired wire to star-quad

**Lapping:** plastic foil

**Screen:** earth wire copper strand, tinned 7x0,30 mm (0,5 mm<sup>2</sup>); tinned copper wire braid

**Sheath:** halogen-free compound; colour: pebble grey RAL 7000 or blue RAL 5015; black RAL 9005 UV resistant to a limited extent



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	article number
2x2x0,5	1,0	6,5	65	53	19781100
4x2x0,5	1,0	9,0	105	89	19781200
8x2x0,5	1,0	11,6	190	140	19781300
12x2x0,5	1,2	13,5	260	198	19781400
16x2x0,5	1,2	14,6	320	243	19781500
20x2x0,5	1,2	16,0	380		
24x2x0,5	1,2	17,2	435	347	19781700
32x2x0,5	1,4	20,0	600		
40x2x0,5	1,6	24,0	765		
48x2x0,5	1,6	25,5	870	622	19782000

### ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	78,4 Ω/km
Insulation resistance min.	100 MΩ x km
Characteristic impedance (10 kHz)	130 Ω
Mutual capacitance (800Hz) max. up to 4 DA max.	120 nF/km 140 nF/km
Capacitance unbalance (800 Hz) max.	200 pF/100 m <sup>1)</sup>
Wave attenuation (10 kHz) ca.	2,8 dB/km
Peak operating voltage	600 V
Test voltage core-core	2000 V 50 Hz 1 min
Test voltage core-screen	2000 V 50 Hz 1 min

### BEHAVIOR UNDER FIRE CONDITIONS

acc. to IEC 60332-3

### THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	-5°C to +50°C
Temperature range stationary	-30°C to +70°C
Minimum bending radius	10 x diameter

<sup>1)</sup> 20 % of the values, but at least one value, may be 400 PF

We reserve changes which serve technical progress • Copper base 100,00 €/ 100,00 kg  
 Price upon quantity-specific request

# RD-YwCYw ... Bd

## Measuring and control cable



### APPLICATION

Data transmission cable, mainly in power stations and other industrial plants.

### CONSTRUCTION

**Conductor:** copper strand, bare, flexible  
0,5 mm<sup>2</sup>: strand 7x0,30 mm; Ø=0,9 mm

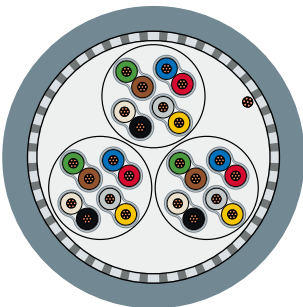
**Core insulation:** PVC

**Core stranding:** 2 cores to pair; 4 pairs to lay up; bundled with numbered tape, Bundles to lay up; 2-paired wire to star-quad

**Lapping:** plastic foil

**Screen:** tinned copper wire braid

**Sheath:** PVC; colour: preferably grey RAL 7000



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	article number
2x2x0,5	1,0	6,6	70		
4x2x0,5	1,0	8,9	110		
8x2x0,5	1,0	12,1	195		
12x2x0,5	1,2	14,0	265		
16x2x0,5	1,2	15,0	330		
20x2x0,5	1,2	16,5	390		
24x2x0,5	1,2	18,6	485		
32x2x0,5	1,6	21,2	635		
40x2x0,5	1,6	25,0	800		
48x2x0,5	1,8	26,0	910		

### ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	78,4 Ω/km
Insulation resistance min.	100 MΩ x km
Mutual capacitance (800Hz) max.	120 nF/km
up to 4 DA max.	140 nF/km
Capacitance unbalance (800 Hz) max.	200 pF/100 m <sup>1)</sup>
Peak operating voltage	600V
Test voltage core-core	2000V 50 Hz 1 min
Test voltage core-screen	2000V 50 Hz 1 min

### THERMAL & MECHANICAL PROPERTIES

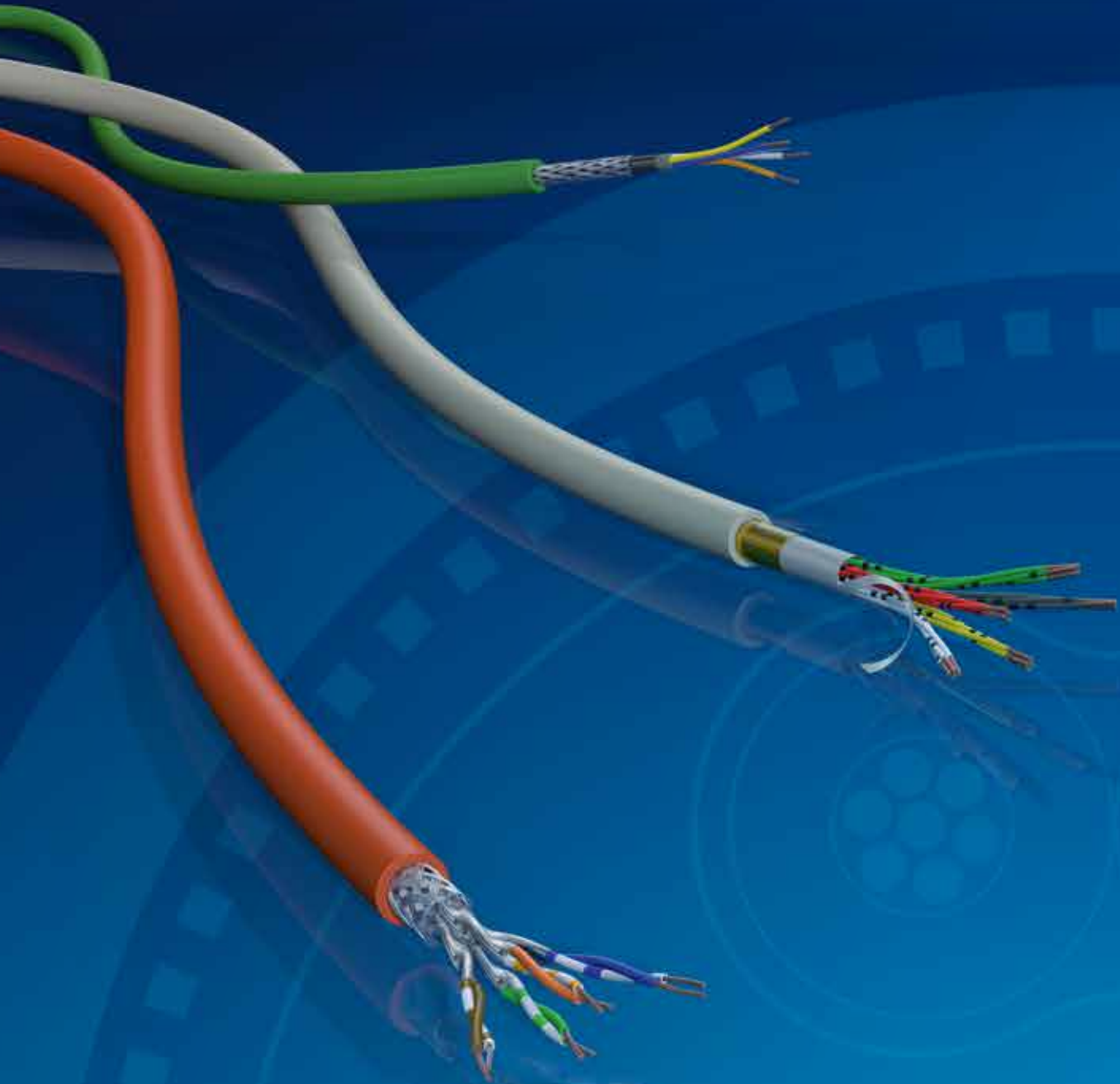
Temperature range during installation	-5°C to +50°C
Temperature range stationary	-30°C to +90°C
Minimum bending radius	7,5 x diameter

<sup>1)</sup> 20 % of the values, but at least one value, may be 400 PF

We reserve changes which serve technical progress • Copper base 100,00 €/ 100,00kg  
Price upon quantity-specific request



**VOKA**  
VOGTLÄNDISCHES  
KABELWERK GMBH



**CABLES MADE IN GERMANY**