

# DIN 22419-2:2004-12 (D)

## Schlagwettergeschützte und explosionsgeschützte elektrische Betriebsmittel für den Bergbau - Einführungen für Kabel und Leitungen - Teil 2: Zwischenstücke für Einführungen; Sicherheitstechnische Anforderungen und Prüfung

Inhalt	Seite
Xxxxxxx .....	10
o    XXXXXXXXXXXXXXXXXXXX .....	11
o    XXXXXXXX XXXXXXXXXXXXXXX .....	11
o    XXXXXXXX .....	13
o    XXXXXXXXXXXXXXXXXXXX .....	19
o    XXXXXXXX .....	19
o    XXXXXXXX .....	22
o.o   XXXXXXXX .....	22
o.o   XXXXXXXX xxx XXXXXXX .....	22
o.o   XXXX .....	22
o.o   XXXXXXXXXXXXXXXXXXXXXXXX .....	23
o.o   XXXXXXXXXXXXXXXX .....	23
o    XXXXXXXX .....	23
o.o   XXXXXXXXXXXXXXXX xxx XXXXXXX .....	23
o.o   XXXXX XXXX xxx XXXXXXXXXXX xxx XXXXXXXXXXXXXXXXXXX .....	24
o.o   XXXXXXXX .....	24
o.o   XXXX .....	24
o.o.o   XXXXXXXX .....	24
o.o.o   XXXXXXXX xxx XXXXXXX .....	24
o.o   XXXXXXXX .....	25
o.o   XXXXXXXX xxx XXXXXXX/XXXXX xxx XXXXXXX .....	25
o.o   XXXXXXXX xxx XXXXXXX xxx XXXXXXX .....	26
o.o   XXXX xxx XXXXXXX xxx XXXXXXX .....	26
o.o   XXXXXXXX xxx XXXXXXX .....	27
o.o.o   XXXXXXXX xxx XXXXXXX xxx XXXXXXX .....	27
o.o.o   XXXX XXXXXXX xxx XXXXXXX .....	28
o.o.o   XXXXXXXX .....	28
o.o.o   XXXXXXXX .....	28
o.o.o.o   XXXXXXXX .....	28
o.o.o.o   XXXXXXXX xxx XXXXXXX .....	28
o.o.o.o   XXXXXXXX xxx XXXXXXX .....	30
o.o.o.o   XXXXXXXX xxx XXXXXXX .....	30
o.o.o   XXXXX XXXXXXXXXXX .....	30
o.o.o   XXXXXXXX .....	30
o.o.o   XXXXXXXX .....	30
o.o.o   XXXXXXXX xxx XXXXXXX xxx XXXXXXX xxx XXXXXXX .....	30
o.o.o   XXXXX xxx XXXXXXX .....	31
o.o.o   XXXXXXXX .....	31
o    XXXXXXXX .....	31
o.o   XXXXXXXX .....	31
o.o   XXXXXXXX XXXXXXX .....	31
o    XXXX .....	32
o.o   XXXXXXXX .....	32
o.o   XXXXXXXX XXXXXXX (xxxxx o.o) .....	32
o.o   XXXXXXXX (xxxxx o.o) .....	32

0.0	Xxxx.....	32
0.0.0	Xxxxxxxxxxxxxxxxxxxx (xxxxx 0.0) .....	32
0.0.0	Xxxxxx Xxxxx (xxxxx 0.0) .....	32
0.0.0	Xxxxxxxxxxxxxx (xxxxx 0.0) .....	32
0.0.0	Xxxxxxxxxxxxxx (xxxxx 0.0) .....	32
	Xxxxx	
0.0.0	Xxxxxxxxxxxxxxxxxxxx (xxxxx 0.0) .....	33
0.0.0	Xxxxxxxxxxxx xxx Xxxxxxxxx xxx/xxxx Xxxxxxxxx xx Xxxxxx (xxxxx 0.0).....	33
0.0.0	Xxxxxxxxxxxxxxxx xxx Xxxxxxxxxxxx Xxxxxx (xxxxx 0.0) .....	33
0.0.0	Xxxx xxx Xxxxxxxxxxxx (xxxxx 0.0) .....	33
0.0.0	Xxxxxxxx Xxxxxxxxxxxxxxxxxxxx (xxxxx 0.0).....	33
0.0.00	Xxxxxxxxxxxxxxxxxxxxxx (xxxxx 0.00) .....	33
0.0.00	Xxxxxxxxxxxx xxx Xxxxxxxxxxxx Xxxxxx (xxxxx 0.00) .....	33
0.0.00	Xxxxxxxxxxxxxxxx (xxxxx 0.00) .....	33
0.0.00	Xxxxxxxxxxxxxxxx (xxxxx 0.00) .....	34
0.0.00	Xxxxxxxxxxxxxxxxxxxxxx (xxxxx 0.00) .....	34
00	Xxxxxxxxxxxxxxxxx.....	34
00	Xxxxxxxxxxxxxxxxxxxxxxxxx .....	34
00.0	Xxxxxxxxxxxxx.....	34
00.0	Xxxxxxxxxxxxx (xx: xxxxxxxxxx xxx xxx (XXX)).....	35
00.0.0	Xxxxxxxxxxxxx .....	35
00.0.0	Xxxxxxxxxxxxx .....	35
00.0	Xxxxxxxxxxxxx Xxxxxxxxxxxxxxxxxxxxxxxxx (XXX) .....	35
00.0.0	Xxxxxxxxxxxxx .....	35
00.0.0	Xxxxxxxxxxxxx .....	36
00.0.0	Xxxxxxxxxxxxxxxxxxxx xxx Xxxxxxxx.....	37
00.0.0	Xxxxxxxxxxxxxxxxxxxxxxxxx .....	37
00.0.0	Xxxxxxxx xxx Xxxxxxxxxxxx xxx Xxxxxxxx .....	37
00.0.0	Xxxxxxxxxxxxx Xxxxxxxx.....	37
Xxxxxx X (xxxxxxxxx) Xxxxxxxxxxxxxxxxxxxx xxx xxx xxxxxxxxxxxxxx Xxxxxxxxxxxxxxxxxxxxxxxxx.....		38
Xxxxxx X (xxxxxxxxx) Xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx .....		47
X.0	Xxxxxxxxxxxxxxxxxxxx xxxxx xxxx xxxxxxxxxxxxxx Xxxxxxxxxxxxxxxxxxxxxxxxx .....	47
X.0	Xxxxxxxxxxxxxxxxxxxx xxx Xxxxxxxxxxxxxxxxx xxxxx xxxx Xxxxxxxxxxxxx .....	47
X.0.0	Xxxxxxxx Xxxxxxxxxxxxxxxxxxxx xxx XX XXX 0000.....	47
X.0.0	Xxxxxxxx Xxxxxxxxxxxxxxxxxxxx xxx XX XXX 0000.....	47
X.0.0	Xxxxxxxxxxxxxxxxxxxx Xxxxxxxxxxxxxxxxxxxxxxxxx .....	48
X.0.0	Xxxxxxxxxxxxxxxxx Xxxxxxxx .....	49
Xxxxxx X (xxxxxxxxx) Xxxxxxxxxxxxx Xxxxxxxxxxxxxxxxx xx Xxxxxxxxxxxx xxx Xxxxxxxx xxx Xxxxxxxx		
	Xxxxxxxxxxxxxxxxxxxxxxxxx .....	50
X.0	Xxxxxxxxxxxxx.....	50
X.0	Xxxxxxxxxxxxx.....	50
X.0.0	Xxxxxxxxxxxxx.....	50
X.0.0	Xxxxxxxxxxxxxxxxxxxx Xxxxx .....	51
X.0.0	Xxxxxxxxxxxxxxxxxxxxxxxxx .....	51
X.0.0	Xxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxx Xxxxxxxx.....	51
X.0.0	Xxxxxxxx xxx xxx xxxxxxxxxxxxxx Xxxxxxxx xx Xxxxxxxxxxxx xxx xxxxx Xxxxxxxxxxxxx.....	52
X.0	Xxxxxxxxxxxxxxxxx Xxxxxxxxxxxxxxxxx .....	52
X.0.0	Xxxxxxxxxxxxx.....	52
X.0.0	Xxxxxxxxxxxxxxxxx xxxxx Xxxx .....	52
X.0.0	Xxxxxxxxxxxxxxxxx.....	52
Xxxxxx X (xxxxxxxxx) Xxxxxxxxxxxxx Xxxxxxxxxxxxxxxxx xx Xxxxxxxxxxxx xxx Xxxxxxxx xxx		
	Xxxxxxxxxxxxx.....	53
X.0	Xxxxxxxxxxxxx.....	53
X.0	Xxxxxxxxxxxxxxxxx.....	53
X.0.0	Xxxxxxxxxxxxxxxxxxxx xx xxx Xxxxxxxx .....	53
X.0.0	Xxxxxxxxxxxxxxxxxxxx xx Xxxxx .....	53
X.0.0	Xxxxxxxxxxxxxxxxxxxx xx Xxxxxxxxxxxxxxxx xxx Xxxxxxxx .....	54
X.0	Xxxxxxxxxxxxxxxxx.....	55

X.O.O	Xxxxxxxxxxxxx	55
X.O.O	Xxxxxxxxxxxxx	55
X.O.O	Xxxxxxxxxxxxx	55
X.O.O	Xxxxxxxxxxxxx	55
	Xxxxx	
X.O.O	Xxxxxx- xxxXXXXXXXXXXXXXXXXXXXX	55
X.O.O	Xxxxx-Xxx-XXXXXXXX xxxXXXXXXXX	55
Xxxxx X (xxxxxxx)	XXXXXXXXXXXXXXXXXXXXXXXXXXXX	56
X.O	XXXXXXXXXXXX	56
X.O	XXXXXXXX	56
X.O.O	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX, Xxx X	56
X.O.O	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX, Xxx X	57
X.O.O	XXXXXXXXXXXXXXXX xxxXXXXXXXXXXXXXXXX xxxXXXXXXXX xxxXXXXXXXX xxxXXXXXXXX xxxXXXXXXXX	57
X.O	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX xxxXXXXXXXX xxxXXXXXXXXXXXXXXXXXXXXXXXX, Xxx X xxx X	57
X.O.O	XXXXXXXXXXXXXXXX xxxX XXXX	57
X.O.O	XXXXXXXXXXXXXXXX	58
X.O.O	XXXXXXXXXXXXXXXXXXXXXXXX	58
X.O.O	XXXXXXXXXXXXXXXX	58
X.O.O	XXXXXXXXXXXXXXXX	59
X.O.O	XXXXXXXXXXXXXXXXXXXXXXXX	59
X.O.O	XXXXXXXXXXXXXXXX	60
X.O	XXXXXXXX xxxXXXXXXXX	60
Xxxxx X (xxxxxxx)	XXXXXXXXXXXXXXXXXXXXXXXX xxxXXXXXXXX xxxXXXXXXXX xxxXXXXXXXX	61
	XXXXXXXXXXXXXXXX (XX) xxxXXXXXXXXXXXXXXXX (XXX-X)	61
X.O	XXXXXXXXXXXX	61
X.O	XXXXXXXXXXXX	61
X.O.O	XXXXXXXXXXXX	61
X.O.O	XXXXXXXXXXXXXXXX	63
X.O.O	XX-XXXXXXXX (XXXXXXXXXXXXXXXX xxxXXXXXXXXXXXXXXXXXXXXXXXX)	63
X.O	XXXXXXXXXXXXXXXX xxxXXXXXXXXXXXXXXXX xxxXXXXXXXX xxxXXXXXXXX xxx XX xxx XXX-X	65
X.O.O	XXXXXXXXXXXX	65
X.O.O	XXXXXXXXXXXXXXXX	65
X.O.O	XXXXXXXXXXXXXXXX	66
X.O.O	XXXXXXXXXXXXXXXXXXXXXXXX	67
X.O.O	XXXXXXXXXXXXXXXX xxxX XXX (XXX)	68
X.O.O	XXXXXXXXXXXXXXXX xxx xxxX XXXXXXXXXXX	68
X.O	XXXXXXXXXXXXXXXXXXXXXXXX	69
Xxxxx X (xxxxxxx)	XXXXX xxxXXXXXXXXXXXXXXXX	70
X.O	XXXXXXXXXXXX	70
X.O	XXXXXXXX xxxXXXXXXXX xxxXXXXXXXXXXXXXXXX (X <sub>γ</sub> )	70
X.O	XXXXXXXXXXXX	70
X.O.O	XXXXXXXXXXXX	70
X.O.O	XXXXXXXXXXXX	70
X.O.O	XXXXXXXX(x)	70
X.O	XXXXXXXXXXXX	73
X.O.O	XXXXXXXXXXXXXXXX xxxXXXXXXXX xxxXXXX- xxxXXXXXXXXXXXXXXXXXXXXXXXX xxxXXXXXXXX	73
X.O.O	XXXXXXXXXXXXXXXX xxxXXXXXXXX xxxXXXXXXXXXXXXXXXXXXXX	75
X.O	XXXXXXXXXXXXXXXX xxxXXXXXXXX	76
Xxxxx X (xxxxxxx)	XXXXX xxxXXXXXXXXXXXXXXXX	77
X.O	XXXXXXXXXXXX	77
X.O	XXXXXXXX (X <sub>γ</sub> )	77
X.O	XXXXXXXXXXXXXXXX xxxXXXXXXXX	77
X.O	XXXXXXXXXXXXXXXX xxxXXXXXXXX	77
Xxxxx X (xxxxxxx)	XXXXX xxxXXXXXXXXXXXXXXXX xxxX XXX	78
X.O	XXXXXXXXXXXX	78

X.O	Xxxxxxxxx xxx XXXXXXXXXXXX xxx XXXXXXXXXXXXXXX (X <sub>X</sub> ) .....	78
		Xxxx
X.O	XXXXXXXXXXXX.....	78
X.O.O	XXXXXXXXXXXX.....	78
X.O.O	XXXXXXXXXXXX.....	78
X.O.O	XXXXXXXXXX(x) xxx XXXXXXX xxx XXXXXXXXXXXXXXX .....	78
X.O	XXXXXXXXXXXX xxx XXXXXXX .....	78
X.O.O	XXXXXX xxxxx xxx xxxxx XXX xxx. xxx XXXXXXXXXXXXXXX xxxxxxxxxxx XXXXXXX.....	78
X.O.O	XXXXXXXXXXXX xxx XXXXXXX xxx XXXXXXXXXXXXXXXXXXXXXXX xxx -XXXXXXXXX.....	80
X.O	XXXXXXXXXXXX xxx XXXXXXX .....	80
Xxxxx X (xxxxxxxx)	XXXXXXXX xxx XXXXXXXXXXXX xxx XXXXXXXXXXXXXXXXXXXXXXX xxx xxxxxxxxxxx	
	XXXXXXXXXXXXXXXXXXXX (XXX) .....	81
X.O	XXXXXXXXXXXX.....	81
X.O	XXXXXXXXXXXX.....	81
X.O	XXXXXXXXXXXX xxx XXXXXXXXXXXXXXX.....	81
X.O	XXXXXXXX xxx XXXXXXX .....	81
X.O	XXXXXXXXXXXX.....	81
X.O.O	XXXXXXXXXXXX xxx XXXXXXXXXXXXXXX xxx XXXXXXXXXXXXXXX .....	81
X.O.O	XXXXXXXXXXXX xxx XXXXXXX xxx XXX .....	82
X.O	XXXXXXXXXXXX xxx XXX .....	83
Xxxxx X (xxxxxxxx)	XXXXXXXXXXXX xxx xxx XXXXXXXXXXXX .....	85
X.O	XXXXXXXXXXXX.....	85
X.O	Xxx xxx XXXXXXXXXXXXXXX .....	85
X.O	XXXXXXXXXXXX xxx xxx XXXXXXXXXXXX.....	85
X.O	XXXXXXXXXXXX xxx Xx-XXXXXXXXXXXX, XXXXXXX xxx XXXXXXXXXXXXXXXXXXXXXXX .....	85
X.O	XXXXXXXX- xxx XXXXXXXXXXXXXXX.....	86
X.O	XXXXXXXX xxx XXXXXXXXXXXXXXX xxx XXXXXXX .....	86
X.O	XXXXXXXXXXXX xxx XXXXXXXXXXX xxx XXXXXXX .....	86
X.O	XXXXXXXXXXXX xxxxx xxx XXXXXXXXXXX xxx XXXXXXX .....	87
Xxxxx XX (xxxxxxxx)	XXXXXXXX xxxxxx XXXXXXXXXXXX XXX, xxx xxx XXXXXXXXXXX xxx XX-	
	XXXXXXXXXXXXXXXXXXXX .....	88
XX.O	XXXXXXXXXXXXXXXX xxx xxxxxx XXXXXXXXXXXX.....	88
XX.O	XXXXXXXX xxx XXXXXXXXXXXXXXXXXXXXXXX xxx XXXXXXX .....	89
XX.O.O	XX-XXXXXXXXXXXXXXXXXXXX xxx XX-XXXXXXXXXXXXXXXXXXXX.....	90
XX.O	XX-XXXXXXXXXXXX xxx XXXXXXXXXXXXXXX.....	91
Xxxxx X (xxxxxxxx)	XXXXXXXX xxxxxxxxxxx XXXXXXXXXXX xxxxxxxxxxx xxxxxx XXXXXXXXXXX	
	XXXX xxx xxx xxxxxxxxxxx XXXXXXX.....	95