Product Information
01/2005

Flexible connectors • Solderless terminals • Contact systems

druseidt Elektrotechnik

Flexible insulated braided copper tapes and supple bars.
Self-extinguishing, operating temperature up to + 105° C.

Flexible PVC-extruded braided copper tapes 10-210 mm² insulated by a black high quality vinyl compound

Construction and applications

Our flexible PVC-extruded braided copper tapes are made out of annealed uncoated Cu-ETP wires and are insulated by a black high quality vinyl compound. The compound is hardly inflammable/self-extinguishing and free of lead. The electrical conductor is a flexible copper braid manufactured by a flat rolled copper tube. The technical characteristics of the insulation material e.g. the operating voltage up to 1 kV and the heat resistance up to +105° C combined with the flexibility of the braids offer multifarious applications inside switchgears or control panel devices as well as earthing connections. The braids belong to our standard range and are normally in stock for fast delivery, electively in rings or on spools. The described insulation with black colour is standard but on request by ordering an appropriate quantity it is also possible to manufacture a translucent nature coloured PVC-insulation with a heat resistance to appr. +85° C.

Technical data

Electrical conductor

- braided copper tapes made out of Cu-ETP wires
- annealed, uncoated wires
- single wire-Ø 0,15 mm (10/16 mm²) respectively single wire-Ø 0,20 mm (25-210 mm²)

Insulation

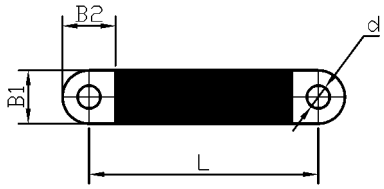
- special vinyl compound
- black, free of lead
- self-extinguishing acc. to UL 94 VO
- elasticity 365%
- dielectric strength 20 kV/mm
- operating voltage max. 1 kV
- operating temperature -20° C up to +105° C

Part-No.	technical data												
	cross-section	ca. dimensions mm braid			with insolation			current load in dependence of the conductor heat in ° Celsius					
	mm²	B	x	S	B	x	S	65°	75°	85°	90°	95°	105°
16280	10	10	x	2	12	x	4	75 A	85 A	100 A	105 A	110 A	120 A
16281	16	16	x	2	18	x	4	100 A	120 A	140 A	150 A	155 A	170 A
16282	25	25	x	2	27	x	4	145 A	175 A	200 A	210 A	220 A	240 A
16283	35	25	x	3	27	x	5	170 A	205 A	235 A	250 A	260 A	285 A
16284	50	25	x	4	27,4	x	6,4	205 A	245 A	280 A	300 A	315 A	340 A
16285	50	30	x	3,3	32,4	x	5,7	215 A	260 A	295 A	310 A	330 A	360 A
16286	70	25	x	5,6	27,4	x	8	245 A	295 A	335 A	355 A	375 A	410 A
16287	70	35	x	4	37,4	x	6,4	270 A	325 A	370 A	390 A	410 A	450 A
16288	100	35	x	5,7	38,2	x	8,9	325 A	390 A	445 A	470 A	495 A	540 A
16289	120	40	x	6	43,2	x	9,2	375 A	445 A	510 A	540 A	565 A	620 A
16290	140	40	x	7	43,6	x	10,6	405 A	480 A	550 A	580 A	610 A	670 A
16291	210	42	x	10	46	x	14	505 A	605 A	690 A	730 A	765 A	835 A

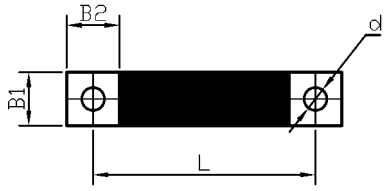
All information about current load are approximate values in consideration of the cables heat for single laying of air cooled cables and ambient temperature +35° C.

The temperature of the conductor is in dependent on the installation, the application, the cooling, the ambient temperature etc., so that if necessary reducing factors are to be considered. With pleasure our employees assist your company in finding optimal solutions.

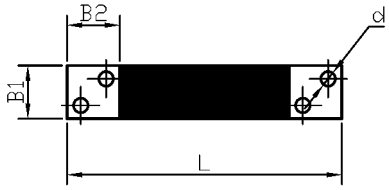
Flexible insulated earthing tapes and copper connectors 10-210 mm² with solderless pressed contact areas



design A



design B



Part-No. 15577

Construction and applications

Manufactured by flexible PVC-extruded braided copper tapes with solderless pressed contact areas made out of seamless Cu-ETP-tubes. The crimping process is realized without using additives like tin or soldering and welding additives.
We use exclusively materials of same analysis and same conductivity of 57 S (braids and tubes). So the hereby used druseidt-press technology guarantee a extreme compressing and a optimal contact resistance by compressing the wires so much, that no harmful gases or other environmental influences can go inside. By using our connectors you can be sure to have a very well and optimized contact resistance.
Caused by the technical characteristics of the insulating material and the flexibility of the braids the connectors offer multifarious applications inside switchgears or control panel devices up to app. 730 A as well as earthing connections.

Technical data

Electrical conductor
- braided copper tapes made out of Cu-ETP-wires
- annealed, uncoated wires
  wire-Ø 0,15 mm (10/16 mm²)
  wire-Ø 0,20 mm (25-210 mm²)

Contact areas
- seamless copper tubes made out of Cu-ETP material
- surface uncoated or tinned

Insulation
- special vinyl compound
- black, free of lead
- self-extinguishing acc. to UL 94 VO
- elasticity 365%
- dielectric strength 20 kV/mm
- operating voltage max. 1 kV
- operating temperature -20° C up to +105° C

Part-No.		technical data						
		cross-section	current load	dimensions mm				
design A	design B	mm²		B_1	B_2	ca. s	d	L
15415	**15560**	10	75-105 A	12	12	3,0	5,5	acc. to cutomers wishes
15416	**15561**	16	100-150 A	15	15	3,3	6,5	
15417	**15562**	25	145-210 A	20	20	3,8	9	
15418	**15563**	25	145-210 A	25	25	3,5	9	
15419	**15564**	35	170-250 A	20	20	4,3	9	
15420	**15565**	35	170-250 A	25	25	3,6	9	
15421	**15566**	50	205-300 A	25	25	4,7	9	
15422	**15567**	50	215-310 A	30	30	4,3	11	
15423	**15568**	70	245-355 A	25	25	6,0	9	
15424	**15569**	70	245-355 A	30	30	5,0	11	
15425	**15570**	70	270-390 A	35	35	5,4	11	
15426	**15571**	70	270-390 A	40	40	5,2	14	
15427	**15572**	100	325-470 A	35	35	6,1	11	
15428	**15573**	100	325-470 A	40	40	7,2	14	
15429	**15574**	120	375-540 A	40	40	8,0	14	
-	**15575**	140	405-580 A	40	40	8,6	14	
-	**15576**	210	505-730 A	40	40	9,8	14	
-	**15577**	210	505-730 A	50	50	8,0	14	

Remark:

Manufacturing acc. to the customers wishes in large as well as small quantities. Uncoated braid and uncoated contact areas are standard. But on request with tinned contact areas and bare braid or with changed drill holes deliverable. By ordering the design with tinned contact areas it is necessary to add the word tinned behind the part-No. (e.g. 15570 tinned). All information about current load are approximate values in consideration of the cables heat for single laying of air cooled cables and ambient temperature +35° C. Minimum value = conductor temperature app. +65° C. Maximum value conductor temperature app. +90° C.

The temperature of the conductor is in dependent on the installation, the application, the cooling, the ambient temperature etc., so that if necessary reducing factors are to be considered. With pleasure our employees assist your company in finding optimal solutions.

PVC insulated supple bars insulated by a black vinyl compound, standard length 2 m

Construction and applications

Supple bars are insulated flat electrical conductors. They consist of several layers of uncoated or tin plated Cu-ETP strips (99,9% copper) and are insulated with a flexible high quality vinyl compound. This special compound is self-extinguishing and free of lead. The flexibility of the bars offers an installation into difficult equipment or small places. They have become particularly well established as connectors in switchgears and between transformers, generators, switching devices and prefabricated power networks up to a operating voltage of 1 kV. As a consequence of their large surface area and hence their favourable thermal radiation properties, they can handle heavier current loads than solid busbars of the same cross-section. So it is possible to use components with smaller dimensions. The elasticity of the vinyl compound realizes a deforming of bars also when working with larger cross-sections.
The connection level can also be changed by bending and twisting through 180°.
Our supple bars enable an individual fitting of the components, a reduction of the cross-section and a reduction of the installation time. So they are a very interesting cost-saving product.

Technical data

Electrical conductor

- copper strips Cu-ETP (99,9% copper)
- surface uncoated or tinned
- stability > = 200 N/mm²
- electrical conductivity 57 S x m/mm²

Insulation

- special vinyl compound
- black, free of lead
- thickness 1,8-2 mm
- self-extinguishing acc. to UL 94 VO
- shore hardness 85 A
- elasticity 365%
- AC voltage between potential and insulating material 16,5 kV
- AC voltage between two insulated supple bars in contact 33 kV
- operating voltage max 1 kV
- operating temperature -20° C up to +105° C

Installation

Simple mounting by drilling, punching or underside clamping. The copper strips are sliding when bending the bars, therefore it is necessary to bend the bars before starting the cutting, drilling or punching process.
To prevent a displacement of the copper strips a tightly clamping of the bars is necessary too when carrying out the drilling or punching process.

PVC insulated supple bars
made out of uncoated or tin plated Cu-ETP strips
insulated by a black vinyl compound, standard length 2 m

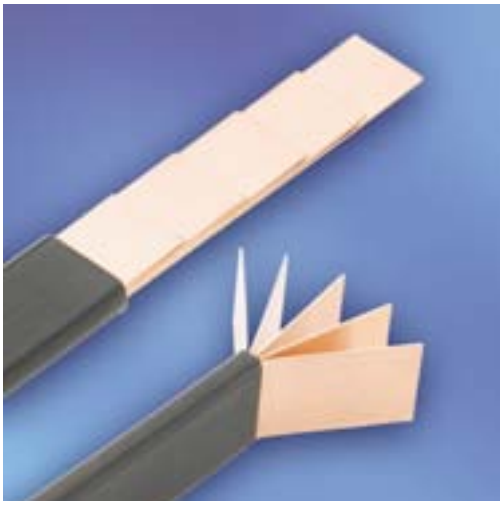
Part-No.		technical data							
		cross-section	copper-strips	current load in dependence of the conductor heat in °C					copper weight
uncoated	tinned	mm²	number x dimension mm	65°	75°	85°	95°	105°	kg/% m
15650	**15650 vz**	14,4	2 x 9 x 0,8	95 A	114 A	130 A	144 A	157 A	13,80
15651	**51700***	21,6	3 x 9 x 0,8	119 A	141 A	162 A	180 A	196 A	20,70
15652	**15652 vz**	28,8	4 x 9 x 0,8	139 A	166 A	190 A	211 A	230 A	27,60
15653	**15653 vz**	36	5 x 9 x 0,8	158 A	189 A	215 A	240 A	262 A	34,50
15654	**51705***	43,2	6 x 9 x 0,8	176 A	210 A	240 A	266 A	291 A	41,40
15655	**15655 vz**	13	2 x 13 x 0,5	97 A	116 A	132 A	147 A	160 A	12,50
15656	**51710***	19,5	3 x 13 x 0,5	120 A	143 A	163 A	181 A	198 A	18,70
15657	**15657 vz**	26	4 x 13 x 0,5	140 A	166 A	190 A	211 A	231 A	25,00
15658	**51715***	39	6 x 13 x 0,5	174 A	207 A	237 A	263 A	288 A	37,50
15661	**15661 vz**	24,8	2 x 15,5 x 0,8	141 A	168 A	192 A	214 A	234 A	23,80
15662	**51720***	49,6	4 x 15,5 x 0,8	205 A	244 A	279 A	310 A	339 A	47,60
15663	**51725***	74,4	6 x 15,5 x 0,8	257 A	306 A	350 A	389 A	424 A	71,40
15664	**15664 vz**	99,2	8 x 15,5 x 0,8	303 A	361 A	412 A	458 A	501 A	95,20
15665	**51730***	124	10 x 15,5 x 0,8	345 A	411 A	470 A	523 A	571 A	119,00
15666	**15666 vz**	40	2 x 20 x 1	193 A	230 A	263 A	292 A	319 A	38,30
15667	**15667 vz**	60	3 x 20 x 1	240 A	286 A	326 A	363 A	396 A	57,50
15668	**15668 vz**	80	4 x 20 x 1	280 A	334 A	381 A	424 A	463 A	76,60
15669	**15669 vz**	100	5 x 20 x 1	317 A	377 A	431 A	479 A	523 A	95,80
15670	**15670 vz**	120	6 x 20 x 1	351 A	418 A	477 A	531 A	580 A	115,00
15671	**15671 vz**	160	8 x 20 x 1	413 A	492 A	562 A	625 A	683 A	153,30
15672	**15672 vz**	200	10 x 20 x 1	470 A	560 A	640 A	711 A	777 A	191,60
51731	**51732***	240	11 x 20 x 1	497 A	592 A	676 A	752 A	821 A	229,90
15673	**15673 vz**	48	2 x 24 x 1	223 A	265 A	303 A	337 A	368 A	46,00
15674	**15674 vz**	72	3 x 24 x 1	276 A	329 A	375 A	417 A	456 A	69,00
15675	**15675 vz**	96	4 x 24 x 1	322 A	383 A	438 A	487 A	532 A	92,00
15676	**15676 vz**	120	5 x 24 x 1	363 A	433 A	494 A	550 A	600 A	115,00
15677	**15677 vz**	144	6 x 24 x 1	402 A	479 A	547 A	608 A	664 A	138,00
15678	**15678 vz**	192	8 x 24 x 1	471 A	562 A	641 A	713 A	779 A	183,90
15679	**51735 ***	240	10 x 24 x 1	534 A	637 A	727 A	809 A	883 A	229,90
15690	**15690 vz**	64	2 x 32 x 1	280 A	334 A	382 A	424 A	463 A	61,30
15691	**15691 vz**	96	3 x 32 x 1	346 A	413 A	471 A	524 A	572 A	92,00
15692	**15692 vz**	128	4 x 32 x 1	403 A	480 A	548 A	610 A	666 A	122,60
15693	**15693 vz**	160	5 x 32 x 1	453 A	540 A	617 A	686 A	749 A	153,30
15694	**15694 vz**	192	6 x 32 x 1	500 A	596 A	680 A	756 A	826 A	183,90
15695	**15695 vz**	256	8 x 32 x 1	583 A	695 A	793 A	882 A	963 A	245,30
15696	**15696 vz**	320	10 x 32 x 1	657 A	783 A	894 A	995 A	1086 A	306,60
15697	**15697 vz**	120	3 x 40 x 1	415 A	494 A	565 A	628 A	686 A	115,00
15698	**15698 vz**	160	4 x 40 x 1	481 A	574 A	655 A	729 A	796 A	153,30
15699	**15699 vz**	200	5 x 40 x 1	541 A	644 A	736 A	818 A	894 A	191,60
15700	**15700 vz**	240	6 x 40 x 1	594 A	708 A	809 A	900 A	982 A	229,90
15701	**15701 vz**	320	8 x 40 x 1	690 A	822 A	939 A	1044 A	1140 A	306,60
15702	**15702 vz**	400	10 x 40 x 1	774 A	922 A	1053 A	1171 A	1279 A	383,20
15703	**15703 vz**	200	4 x 50 x 1	577 A	688 A	786 A	874 A	954 A	191,60
15704	**15704 vz**	250	5 x 50 x 1	646 A	770 A	880 A	978 A	1068 A	239,50
15705	**15705 vz**	300	6 x 50 x 1	709 A	844 A	965 A	1073 A	1171 A	287,40
15706	**15706 vz**	400	8 x 50 x 1	818 A	975 A	1114 A	1238 A	1352 A	383,20
15707	**15707 vz**	500	10 x 50 x 1	914 A	1089 A	1244 A	1383 A	1510 A	479,00
15708	**15708 vz**	252	4 x 63 x 1	698 A	832 A	950 A	1056 A	1153 A	241,40
15709	**15709 vz**	315	5 x 63 x 1	779 A	929 A	1061 A	1179 A	1288 A	301,80
15710	**15710 vz**	378	6 x 63 x 1	852 A	1015 A	1159 A	1289 A	1408 A	362,10
15711	**15711 vz**	504	8 x 63 x 1	978 A	1166 A	1332 A	1481 A	1617 A	482,80
15712	**15712 vz**	630	10 x 63 x 1	1088 A	1296 A	1481 A	1646 A	1798 A	603,50
15713	**15713 vz**	400	5 x 80 x 1	947 A	1128 A	1289 A	1433 A	1565 A	383,20
15714	**15714 vz**	480	6 x 80 x 1	1032 A	1229 A	1404 A	1562 A	1705 A	459,80
15715	**15715 vz**	640	8 x 80 x 1	1179 A	1405 A	1604 A	1784 A	1948 A	613,10
15716	**15716 vz**	800	10 x 80 x 1	1305 A	1556 A	1777 A	1976 A	2157 A	766,40
15717	**15717 vz**	500	5 x 100 x 1	1136 A	1354 A	1546 A	1720 A	1878 A	479,00
15718	**15718 vz**	600	6 x 100 x 1	1235 A	1471 A	1681 A	1869 A	2041 A	574,80
15720	**15720 vz**	800	8 x 100 x 1	1404 A	1674 A	1912 A	2126 A	2321 A	766,40
15722	**15722 vz**	1000	10 x 100 x 1	1550 A	1848 A	2110 A	2347 A	2562 A	958,00

Remark:

Stocked standard design bare and the * marked tinned designs.
In special design all dimensions are deliverable with a tin coated surface and in variable lengths (e.g. 3 m). All information about current load are approximate values in consideration of the cables heat for single laying of air cooled cables and ambient temperature +35° C.

The temperature of the conductor is in dependent on the installation, the application, the cooling, the ambient temperature etc., so that if necessary reducing factors are to be considered. With pleasure our employees assist your company in finding optimal solutions.

Insulated supple bars, free of halogen made out of bare Cu-ETP strips insulated by a black thermoplastic, standard length 2 m



Construction and applications

Construction according to the PVC-insulated design but insulated by an extruded high quality thermoplastic. The insulating material is free of halogen and suitable for all applications which requires a halogen free design of connectors. The material combined with the special injection moulding process realizes a manufacturing of flexible bars. The hardness of the material is a little bit stronger compared with the PVC-material but it offer although a good deformation of the bars.

Installation

Simple mounting by drilling, punching or underside clamping. The copper strips are sliding when bending the bars, therefore it is necessary to bend the bars before starting the cutting, drilling or punching process. To prevent a displacement of the copper strips a tightly clamping of the bars is necessary too when carrying out the processes.

Technical data

Electrical conductor

- copper strips cu-ETP (99,9% copper)
- surface uncoated or tinned
- stability > = 200 N/mm²
- electrical conductivity 57 S x m/mm²

Insulation

- special thermoplastic
- black, free of halogen
- thickness 1,8-2 mm
- self-extinguishing
- shore hardness 85 A
- elasticity 185%
- AC voltage between potential and insulating material 16,5 kV
- AC voltage between two insulated supple bars in contact 33 kV
- operating voltage max 1 kV
- operating temperature -20° C up to +105° C

Part-No.	technical data							
	cross-section	copper-strips	current load in dependence of the conductor heat in °C					copper weight
uncoated	mm²	number x dimension mm	65°	75°	85°	95°	105°	kg/% m
19000	14,4	2 x 9 x 0,8	95 A	114 A	130 A	144 A	157 A	13,80
19001	21,6	3 x 9 x 0,8	119 A	141 A	162 A	180 A	196 A	20,70
19002	28,8	4 x 9 x 0,8	139 A	166 A	190 A	211 A	230 A	27,60
19003	36	5 x 9 x 0,8	158 A	189 A	215 A	240 A	262 A	34,50
19004	43,2	6 x 9 x 0,8	176 A	210 A	240 A	266 A	291 A	41,40
19010	13	2 x 13 x 0,5	97 A	116 A	132 A	147 A	160 A	12,50
19011	19,5	3 x 13 x 0,5	120 A	143 A	163 A	181 A	198 A	18,70
19012	26	4 x 13 x 0,5	140 A	166 A	190 A	211 A	231 A	25,00
19014	39	6 x 13 x 0,5	174 A	207 A	237 A	263 A	288 A	37,50
19016	52	8 x 13 x 0,5	204 A	243 A	278 A	309 A	338 A	50,00
19018	65	10 x 13 x 0,5	232 A	276 A	316 A	351 A	383 A	67,40
19019	24,8	2 x 15,5 x 0,8	141 A	168 A	192 A	214 A	234 A	23,80
19021	49,6	4 x 15,5 x 0,8	205 A	244 A	279 A	310 A	339 A	47,60
19023	74,4	6 x 15,5 x 0,8	257 A	306 A	350 A	389 A	424 A	71,40
19025	99,2	8 x 15,5 x 0,8	303 A	361 A	412 A	458 A	501 A	95,20
19027	124	10 x 15,5 x 0,8	345 A	411 A	470 A	523 A	571 A	119,00
19028	40	2 x 20 x 1	193 A	230 A	263 A	292 A	319 A	38,30
19029	60	3 x 20 x 1	240 A	286 A	326 A	363 A	396 A	57,50
19030	80	4 x 20 x 1	280 A	334 A	381 A	424 A	463 A	76,60
19031	100	5 x 20 x 1	317 A	377 A	431 A	479 A	523 A	95,80
19032	120	6 x 20 x 1	351 A	418 A	477 A	531 A	580 A	115,00
19034	160	8 x 20 x 1	413 A	492 A	562 A	625 A	683 A	153,30
19036	200	10 x 20 x 1	497 A	592 A	676 A	752 A	821 A	191,60
19037	48	2 x 24 x 1	223 A	265 A	303 A	337 A	368 A	46,00
19038	72	3 x 24 x 1	276 A	329 A	375 A	417 A	456 A	69,00
19039	96	4 x 24 x 1	322 A	383 A	438 A	487 A	532 A	92,00
19040	120	5 x 24 x 1	363 A	433 A	494 A	550 A	600 A	115,00
19050	320	10 x 32 x 1	657 A	783 A	894 A	995 A	1086 A	306,60
19052	120	3 x 40 x 1	415 A	494 A	565 A	628 A	686 A	115,00
19053	160	4 x 40 x 1	481 A	574 A	655 A	729 A	796 A	153,30
19054	200	5 x 40 x 1	541 A	644 A	736 A	818 A	894 A	191,60
19055	240	6 x 40 x 1	594 A	708 A	809 A	900 A	982 A	229,90
19057	320	8 x 40 x 1	690 A	822 A	939 A	1044 A	1140 A	306,60
19059	400	10 x 40 x 1	774 A	922 A	1053 A	1171 A	1279 A	383,20
19061	200	4 x 50 x 1	577 A	688 A	786 A	874 A	954 A	191,60
19062	250	5 x 50 x 1	646 A	770 A	880 A	978 A	1068 A	239,50
19063	300	6 x 50 x 1	709 A	844 A	965 A	1073 A	1171 A	287,40
19065	400	8 x 50 x 1	818 A	975 A	1114 A	1238 A	1352 A	383,20
19067	500	10 x 50 x 1	914 A	1089 A	1244 A	1383 A	1510 A	479,00

Remark:

Standard design bare. In special design all dimensions are deliverable with a tin coated surface and in variable lengths (e.g. 3 m). All information about current load are approximate values in consideration of the cables heat for single laying of air cooled cables and ambient temperature +35° C.

The temperature of the conductor is in dependent on the installation, the application, the cooling, the ambient temperature etc., so that if necessary reducing factors are to be considered. With pleasure our employees assist your company in finding optimal solutions.

Bended, twisted and drilled supple bars acc. to your wishes or drawings

Additionally to the delivery of supple bars in standard length of 2 m we deliver bended, twisted and drilled designs acc. to customers wishes or drawings in large as well as small quantities. If you need more information don't hesitate to contact us. With pleasure our employees assist your company in finding optimal solutions.

We place special emphasis on your wishes and have extensive ranges of manufacturing processes

Your wishes are the guidelines for all our activities. Our wide range of products consist of thousands modern stocked parts of installation material and components for high current transfer. Additionally to this standardized program we offer individual constructed components and solutions for solving your problems. Our diverse manufacturing processes facilitate the production of highly flexible braided cables matched to suit your specific application, ready assembled connecting components or welded high current connectors. From the smallest earthing tapes up to high current cables with 6000 mm^2 conductor cross-section, almost all conceivable applications are covered.
Whether in air-cooled or water-cooled designs, we can offer you the right components and solutions. Additionally to the manufacturing of braided tapes or cables we produce flexible connectors made out of copper- or aluminium-strips, e.g. as expansion connectors.

Following manufacturing processes are at our disposal:

- manufacturing of flexible and highly flexible braids, round stranded cables and tubular braids for covering and shielding
- solderless crimping of earthing tapes and flexible connectors
- soldering and welding of flexible braided connectors
- press-/diffusion welding of laminated copper connectors
- electron-beam as well as inert gas welding of high current components
- press-riveting of laminated connectors
- extrusion of special cables and supple bars

All product ranges are supported by modern plants for milling, turning, drilling and grinding as well as by our construction department. With pleasure we'll put a complete set of our catalogues at your disposal. More information about our company and our products are contained in our internet homepage under **www.druseidt.de**

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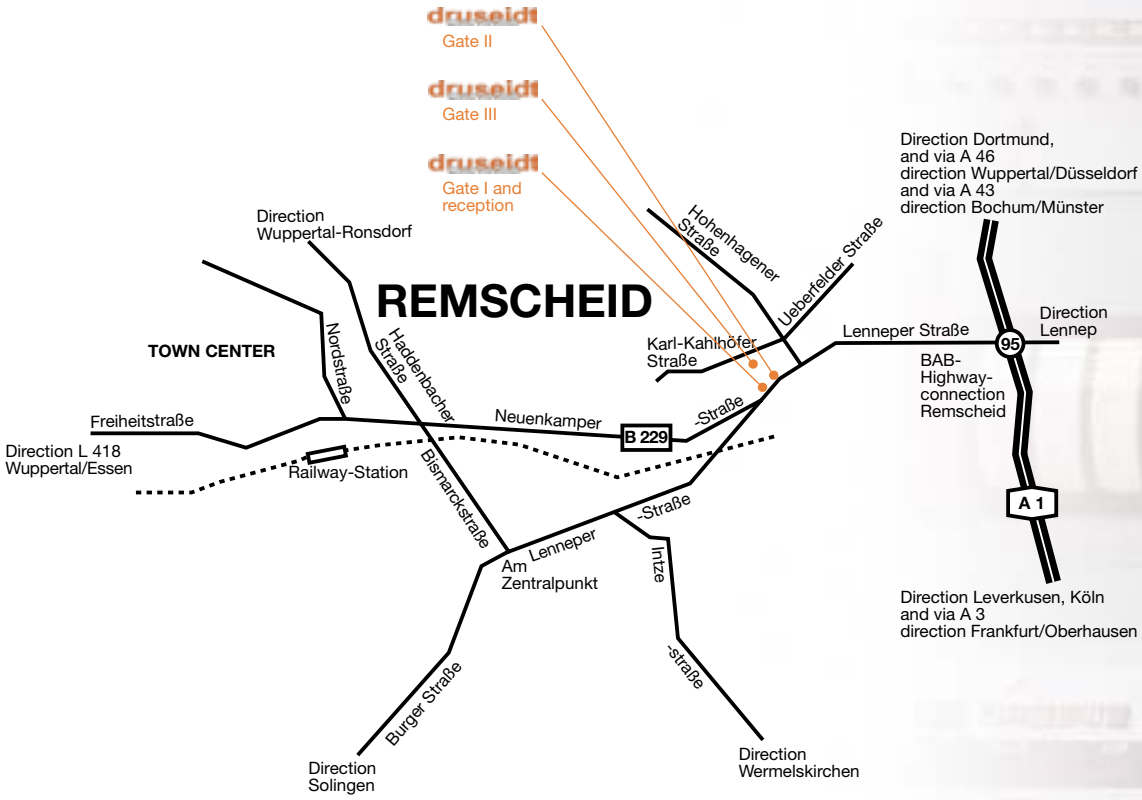

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