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TYPE DESIGNATION CODES

The **type designation codes** indicate the design and intended use of electrical wires and cables in electrical installations.

There are different types of designation codes: The designation codes according to national standards with different different labeling schemes in each country and an internationally harmonized labeling. The harmonized labeling intends to replace the national standards quickly, but for some cable types national designation codes are still common.

In Germany, the abbreviation for cables and wires are standardized in

DIN VDE 0292 Type Designation Codes for cable designation

DIN VDE 0293-308 Identification of the cores of cables / wires and flexible wires by colors

Standard series DIN VDE 0281 for PVC-insulated cables

Standard series DIN VDE 0282 for rubber insulated cables

[power plastic insulated](#)

[power paper insulated](#)

[communication & signalling copper](#)

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POWER CABLES, PLASTIC INSULATED

Power cables with plastic insulation and plastic sheath according to DIN VDE 0262, DIN VDE 0263, DIN VDE 0265, DIN VDE 0266, DIN VDE 0267, DIN VDE 0271, DIN VDE 0273 and DIN VDE 0276 part 603, 604, 620, 622, 626

For cables with plastic insulation and plastic sheath the following designation codes are used (starting with the conductor):

CODE	DESCRIPTION
N	Cables acc. to standard



A	Aluminum conductor
Y	Insulation of polyvinyl chloride (PVC)
2Y	Insulation of thermoplastic polyethylene (PE)
X	Insulation of cross-linked polyvinyl chloride (XPVC)
2X	Insulation of cross-linked polyethylene (XLPE)
H	Field limiting conductive layers over the conductor and over the Insulation
HX	Insulation of cross-linked halogen-free polymer blend
C	Concentric conductor of copper
CW	Concentric conductor of copper, waveform (ceander)
CE	Concentric conductor in multi-core cables on each individual core
S	Braided copper
SE	For multicore cables field limiting conductive layers over the conductor and the insulation and copper screen over each individual core (indicated by "H" is omitted here)
F	Overhead line cable (DIN VDE 0276)
F	Armouring of galvanized flat steel wire
FE	insulation sustaining
(F)	Longitudinally watertight cable (screen)
B	Steel tape armouring
R	Armouring of galvanized round steel wires
G	Helix of galvanized steel tape
HX	Sheath of cross-linked halogen-free polymer blend
Y	Inner sheath of polyvinylchloride (PVC)



CODE	DESCRIPTION
Y	Outer sheath of polyvinylchloride (PVC)
2Y	Outer sheath of polyethylene (PE)
1Y	Outer sheath of polyurethane (PUR)

Conductor cross-section, shape and structure

CODE	DESCRIPTION
R	Circular conductor
S	Sector shaped conductor
E	Solid conductor
M	Stranded conductor
RE	Circular conductor, solid
RM	Circular conductor, stranded
SE	Sector shaped conductor, solid
SM	Sector shaped conductor, stranded
OM	Oval shaped conductor, stranded
H	Waveguide
/V	Compacted conductor

Further, the nominal voltage of the cable will be given in kV.

Examples of complete identification of power cables:

NYCWY 3 x 120 SM/70 0,6/1 kV

NA2YSEY 3 x 70 SE/16 5,8/10 kV



Power cables with impregnated paper insulation according to
DIN VDE 0256, DIN VDE 0257, DIN VDE 0258 and DIN VDE 0276 Teil 621

CODE	DESCRIPTION
N	Cables acc. to standard
A	Aluminum conductor
H	Shielding (H-type cable)
E	Cores with Individual metal sheath and corrosion protection
K	Lead sheath
KL	Pressed aluminum sheath
KLD	Pressed aluminum sheath with strain elements
u	Non-magnetic (only DIN VDE 0256)
D	Bandage protection (only DIN VDE 0256)
E	Protective sheath with embedded layer (eg wrapping) of elastomer or plastic tape (not DIN VDE 0257)
D	Non-magnetic bandage protection (only DIN VDE 0257)
v	Stranded cable (only DIN VDE 0257 and DIN VDE 0258)
F	Armouring made of flat steel wires with counter or helix, which is removed before the pulling of a cable into a steel pipe (only DIN VDE 0257 and DIN VDE 0258)
u	Cables not stranded (only DIN VDE 0257 and DIN VDE 0258)
St	Steel pipe (only DIN VDE 0257 and DIN VDE 0258)
B	Steel tape armouring
F	Armouring made of flat steel wires
FO	Armouring made of flat steel wires, open



CODE	DESCRIPTION
R	Armouring made of round steel wires
RO	Bewehrung aus Stahlrunddraht, offen
GB	Counter helix (metal tape)
A	Protective sheath and outer sheath made of fibrous material
AA	Double outer protective sheath of fibrous materials or fiberglass tape
Y	Protective sheath made of polyvinylchloride (PVC)
2Y	Protective sheath made of Polyethylene (PE)
Z	Armouring of Z-shaped steel profile wire

TELECOMMUNICATION CABLES

CODE	DESCRIPTION
A	Outdoor cable
AB	Outdoor cable with lightning protection requirements
AJ	Outdoor cable with induction protection requirements
G	Mine cable
GJ	Mine cable with induction protection requirements
J	Installation cable
JE	Installation cable for industrial electronics
L	Hose cable for telecommunication systems. Cables with stranded conductors for increased mechanical stress for telecommunication systems
S	Switch board cable for telecommunication systems



P	Insulation made of paper
Y	Insulation or sheath or protective sheath made of polyvinylchloride (PVC)
Yv	Reinforced protective sheath made of polyvinylchloride (PVC)
2Y	Insulation of solid PE or sheath or protective sheath made of polyethylene (PE)
2Yv	Reinforced protective sheath made of polyethylene (PE)
02Y	Insulation made of foamed polyethylene (PE)
02YS	Insulation made of foam-skin
3Y	Insulation made of styroflex
4Y	Insulation made of polyamide (PA)
5Y	Insulation made of polytetrafluoroethylene (PTFE)
6Y	Insulation made of perfluorethylenpropylen (FEP)
7Y	Insulation made of ethylene tetrafluoroethylene (ETFE)
9Y	Insulation made of polypropylene (PP)
09YS	Insulation made of polypropylene foam-skin
H	Insulation or sheath made of halogen free material
FE	Cable with insulation integrity
M	Lead sheath
Mz	Annealed lead sheath
C	Screen made of copper braid
(C)	Individually screend pairs (copper braid)
(K)	Screen made of copper tape
L	Aluminum sheath



CODE	DESCRIPTION
LD	Corrugated aluminum sheath
(L)2Y	Al-laminated sheath made of polyethylene, PE
F	Cable core with jelly filling
TF	Cable core with swellable tape
W	Corugated steel tape sheath
D	Screen made of round copper wires
B*)	Armouring
C*)	Protective sheath of jute and viscous compound
Q	Armouring made of steel braid
(St)	Screen (metal tape or plastic laminated metal tape)
(Z)	Steel wire braid over the inner PVC sheath
E	Compound layer with embedded plastic tape
T	Strength members
(Zg)	Strength members of bundled fiberglass yarns in the sheath

CODE	DESCRIPTION
Bd	Stranded in bundles
DM	Multiple twin quad
Lg	Lagenverseilung
F	Star quad in the railway communications cables
St	Star quad with phantom circuit
St I	Star quad in district cables (trunk cable)



St III	Star quad in local cables
St VI	Star quad HF suitable up to 4 MHz
St VII	Star quad HF suitable up to 16 MHz
St VIII	Star quad HF suitable up to 32 MHz
PiMF	Shielded pair (pairs in metal foil)
S	Railway signalling cable
TF	Star quad for carrier frequency technology

FO CABLES

THE FOLLOWING ABBREVIATIONS APPLY TO FIBER OPTIC CABLES:

1	2	3	4	5	6	7	8	9	10	11	12	13	14
A-		D		Q	(ZN)2Y	12×12	E	9/	125	0,36	F	3,5	LG
													LG – star in lay SZ – star
													bandwidth (G) dispersion coefficient (C)
													wavelength B – 850nm F – 1300nm (GI), 1310 (SM) H – 1550nm
													attenuation in dB/km



J - indoor cable

A - outdoor cable

AT - outdoor cable, divisible

U - universal cable for outdoor and indoor use (also known as A/J)

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