



Digital Topographic Map 1 : 250 000

DTK250



Documentation as of 30. Nov 2017

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1 Index of data sets

Product	: DTK250
Contents	: Georeferenced raster data of the „Bundesrepublik Deutschland 1 : 250 000“ (D250) as 1 combined layer with the colour-coded map image, as 8 single layers which are classified according to the map colours and as 1 additional layers
Area	: Federal Republic of Germany
Spatial structure	: In the tiling system of The Working Committee of the Surveying Authorities of the Laender of the Federal Republic of Germany (AdV): - about 111 seamless tiles 80 km x 80 km
Georeferencing	: - UTM projection zone 32 Ellipsoid GRS80, datum ETRS89 Height system NN - Gauß-Krüger projection zone 3 Bessel ellipsoid, Potsdam datum (origin of Rauenberg), Height system NN others on request – only a selection for free download
Last update	: http://sg.geodatenzentrum.de/web_bkg_webmap/applications/info/dtk250.html
Source	: Digital Landscape Model 1 : 250 000 (DLM250)
Production method	: Automated derivation of the map from the DLM250
Resolution	: 320 Pixel/cm, 812.8 dpi
Data formats	: TIFF-LZW, colour depth 8 bit, RGB-Palette
Data provision	: - download and viewing service at no charge - in ordering system (CD, DVD, FTP) as subject to charge

2 Description of data contents

2.1 General

The Digital Topographic Map 1 : 250 000 (DTK250) includes the raster data of the regular edition of the Map "Bundesrepublik Deutschland 1 : 250 000" (D250).

The raster data are subdivided into several layers according to their cartographic content. The DTK250 has 1 combined layer (L0), 8 single layers and 1 additional layer.

The **combined layer** is a combination of the single layers 1 to 7 and 9 and offers the complete colour map image of the D250.

Colours and structure of the **single layers** for the DTK250 are basically corresponding to the colours of the D250. For practical reasons, some layers received additional thematic attributions of individual map elements. This implies an advantage for the user since each layer covers the whole federal territory.

The single layers of all Digital Topographic Maps distributed by BKG have an identical structure, except for some scale-dependent special characteristics.

More differentiated information is allowed by colour channels which are part of the single and additional layers. Certain cartographic elements are assigned to these channels (see para. 2.2).

Please note that cartographic symbols may contain graphical gaps to avoid certain overlays with symbols of other layers. This is because the single layers were generated for the purpose of map printing.

The **additional layer** (layer 8 in para. 2.2) contains hill shading.

2.2 Contents and colour chart of the single and additional layers

The following tables give descriptions of the contents and the colour chart of each layer. The headline indicates the following:

- **Number of layer**, z. B. *Layer 1*
- The main **contents** (in brackets the main **printing colour**) and
- **Priority**, e.g. *P6*, indicates the sequence of the single layers when matching for generating the sum layer.

Layer 1

Railway traffic and lettering (black)

P 1

Channel	Contents	Description
0	Background	
1	Railway	Railway
2	Railway out of operation	Railway
3	Lettering	Place names
4	Single Letter	Signatures (Church etc.)
5	Single Letter	Wind wheels
6	Industrial Area	Industry
7	Rock grey	Representation of rocks

Colour chart Layer 1

Channel	Red	Green	Blue	Colour Channel in L0
0	255	255	255	white
1	0 0	0 0	0 0	black
2	155	155	155	grey
3	0 0	0 0	0 0	black
4	0 0	0 0	0 0	black
5	155	155	155	grey
6	211	211	211	industry-grey
7	217	217	217	rock-grey

Layer 2

Settlement

P 8

Channel	Contents	Description
0	Background	
1	Residential area	Mask for residential areas
2	Site symbol	Symbol
3	Site symbol mask	White
4	Single structures	Grey

Colour chart Layer 2

Channel	Red	Green	Blue	Colour Channel in L0
0	255	255	255	white
1	255	174	174	residential area-red
2	128	64	0	situation-brown
3	255	255	255	white
4	167	167	167	building-grey

Layer 3

Water

P 6

Channel	Contents
0	Background
1	Shorelines
2	Inland waterbodies
3	Sea areas
4	Tidal flats
5	Swampland, moor
6	Waterbody lettering
7	Direction of flow indicator

Colour chart Layer 3

Channel	Red	Green	Blue	Colour Channel in L0
1	0	128	192	brook-blue
2	208	219	242	lake-blue
3	208	219	242	sea-blue
4	167	198	207	tidal flat-grey
5	0	128	192	brook-blue
6	0	128	192	brook-blue
7	0	128	192	brook-blue

Layer 4

Height spots and lettering (brown), relief, slopes, bank reinforcements

P 2

0	Background
1	Height spots with value, passes
2	Sandy areas
3	Landscapes, mountain names, islands, lowlands
4	Sand (dot pattern)
5	Contour lines and values
6	Slopes, dams
7	Seawall, breakwater / mole, bank reinforcements

Colour chart Layer 4

Channel	Red	Green	Blue	Colour Channel in L0
0	255 100	255 100	255 100	white
1	128	64	0	situation-brown
2	197	198	187	sand-yellow
3	128	64	0	situation-brown
4	128	64	0	situation-brown
5	199	183	135	relief-brown
6	199	183	135	relief-brown
7	128	64	0	situation-brown

Layer 5

Vegetation

P 4

Channel	Contents
0	Background
1	Wood, forest
2	Vineyard, hops
3	Marsh, reed
4	Heathland
5	Swamp, moss, peat ditch

Colour chart Layer 5

Channel	Red	Green	Blue	Colour Channel in L0
0	255 100	255 100	255 100	white
1	128	255	0	forest-green
2	96	164	104	tree-green
3	196	255	196	meadow-green
4	218	196	244	heath-violet
5	220	220	185	fallow-brown

Layer 6

Areas

P 7

Channel	Contents
0	
1	National border, foreign borders
2	All borders, line signature slim

Colour chart Layer 6

Channel	Red	Green	Blue	Colour Channel in L0
0	255 100	255 100	255 100	white
1	222	219	255	border-violet bright
2	186	150	171	border-violet dark

Layer 7

Traffic

P 3

Channel	Contents	Description
0		
1	Autobahn, federal main road	Mask
2	Landesstraßen, Staatsstraßen (roads administrated by the Laender)	Mask
3	district, municipal roads	Mask
4	Road under construction	Mask
5	Road embankment, centerlines, paths	Edge
6	European main road numbers box	Mask
7	Autobahn numbers box	Mask
8	Federal main road numbers box	Mask
9	Numbers of autobahn and European main roads	Number
10	Numbers of federal main roads	Number
11	Ferries	Line signature

Colour chart Layer 7

Channel	Red	Green	Blue	Colour Channel in L0
0	255	255	255	white
1	255	128	0	street-orange
2	255	255	0	street-yellow
3	255	255	255	white
4	255	255	255	white
5	128	64	0	situation-brown
6	0	128	0	tree-green
7	0	128	255	brook-blue
8	255	255	0	street-yellow
9	255	255	255	white
10	0	0	0	black
11	0	128	255	brook-blue

Layer 8 (additional)

Relief shading

Channel	Contents
0	Background
1-23	Grey values of hill shading
24	Cropping mask

Layer 9

Nature parks und military training ground

P5

Channel	Contents
0	Background
1	Military training ground
2	National park

Colour chart Layer 9

Channel	Red	Green	Blue	Colour Channel in L0
0	255 100	255 100	255 100	white
1	255	123	123	red
2	41	141	49	national park green

2.3 Contents and colour chart of the combined layer

The combined layer (L0) has the following colour chart and is created as indicated by combination of the single layers (L<i>)</i> in order of the priority:

Channel	Red	Green	Blue	Colour	Principal contents
0					NODATA
1	43	43	43	black	Place names, railway single character
2	128	128	128	grey	Railway out of operation
3	153	77	77	situation-brown	Situation, Traffic
4	192	192	192	building-grey	Buildings
5	224	167	160	residential area-red	Residential area
6	82	112	254	brook-blue	Shorelines
7	82	112	254	brook-blue	Swamp signature
8	255	177	100	street-orange	Mask for Autobahn, federal main roads
9	255	255	119	street-yellow	Mask for Landesstraße
10	255	255	255	white	Mask for others and municipal roads, single symbols
11	255	123	123	danger-red	Single symbols, lettering, military training ground
12	41	141	49	tree-green	Vineyard, hops
13	41	141	49	nature-park-green	Nature park border
14	219	208	185	fallow-brown	Swamp, moss, peat ditch
15	227	211	228	heath-violet	Heath
16	194	226	158	forest-green	Wood, forest
17	223	238	213	meadow-green	Meadow
18	197	220	243	sea-blue	Sea area
19	230	230	230	tidal flat-grey	Sea areas (Tidal flat)
20	216	202	160	relief-brown	Contours

Channel	Red	Green	Blue	Colour	Principal contents
21	192	192	192	rock-grey	Rocks
22	255	255	255	rock-white	Background of rocks
23	206	157	255	border-violet	Border signature slim
24	230	203	254	border-violet	Border signature wide
25	141	141	141	graticule-grey	Graticule
26	82	112	254	blue	Mask for Autobahn number box
27	255	255	119	yellow	Mask for federal main road number box
28	37	126	44	green	Mask for European main road number box
29	255	255	255	white	Lettering road numbers
30	0	0	0	black	Lettering federal main road number
31	126	154	133	mixed colour	Rock-grey forest-green
32	70	32	223	mixed colour	Border-violet blue
33	207	177	201	mixed colour	Border-violet building-grey
34	164	64	143	mixed colour	Border-violet danger-red
35	142	113	132	mixed colour	Border-violet graticule-grey
36	134	57	72	mixed colour	Border-violet situation-brown
37	207	177	201	mixed colour	Border-violet rock-grey
38	199	181	251	mixed colour	Border-violet sea-blue
39	69	97	3	mixed colour	Border-violet nature-park-green
40	196	183	194	mixed colour	Border-violet relief-brown
41	251	176	4	mixed colour	Border-violet street-yellow
42	184	71	133	mixed colour	Border-violet street-orange
43	177	139	170	mixed colour	Border-violet forest-green
44	196	180	205	mixed colour	Border-violet tidal flat-grey

Channel	Red	Green	Blue	Colour	Principal contents
45	201	239	252	mixed colour	Border-violet meadow-green
46	254	160	228	mixed colour	Border-violet residential area-red
47	40	47	17	mixed colour	Border-violet tree-green
48	148	122	107	mixed colour	Border-violet fallow-brown
49	0	136	136	mixed colour	-
50	62	80	48	mixed colour	relief-brown nature-park-green
51	180	169	209	mixed colour	Border-violet forest-green
52	249	191	128	mixed colour	Border-violet street-yellow
53	241	139	141	mixed colour	Border-violet street-orange
54	139	122	184	mixed colour	-
55	149	149	149	mixed colour	relief-brown rock-grey
56	172	201	105	mixed colour	relief-brown forest-green

3 Map sheet and AdV tiling system

To provide large amounts of seamless data we use the long-term defined tiling scheme by the Working Committee of the Surveying Authorities of the Laender of the Federal Republic of Germany (Arbeitsgemeinschaft der Vermessungsverwaltungen, AdV). Dependent on the georeference the data will be split into square tiles. This supports the user in processing the current data more efficient and in updating the data by replacing single tiles.

Sheet and tile indexes are available at www.geodatenzentrum.de.

The DTK100 is provided as a set of 40 km x 40 km tiles. The nomenclature of the single tiles is based on the coordinates of the lower left corner in the particular coordinate system. They have the following structure:

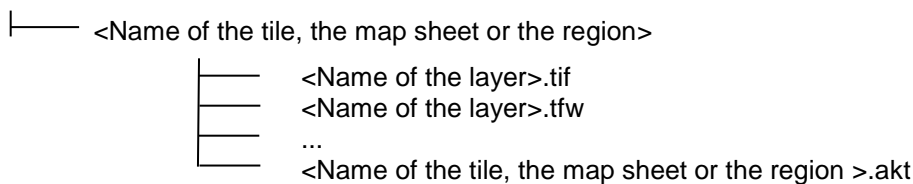
PRODUCT_EAST_NORTH_SIZE_LAYER

- PRODUCT - describes the product (here *dtk250*)
- EAST - Easting coordinate of the lower left corner of the tile, unit „km“ (with zone indication)
- NORTH - Northing coordinate of the lower left corner of the tile, unit „km“
- SIZE - side length of the tile, unit „km“ (here *80*)
- LAYER - layer designation (here *10...19*)

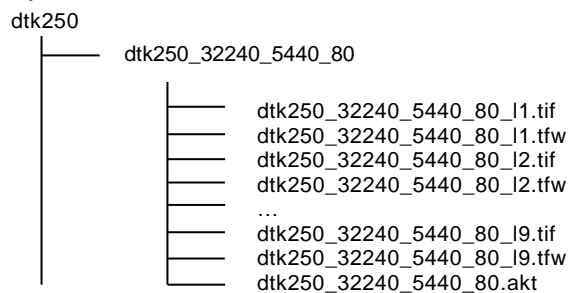
4 Description of data formats

The data will be delivered on the selected data carrier and will have the following directory structure:

<Name of the product>



Example – single layers:



The following georeferencing information is available for each raster index:

- corresponding World file (file extension „.tfw“)
- embedded georeferencing information (GeoTIFF).

Colour coded data (the combined layer and the single layers as standard) will preferably be delivered as *packed LZW*. The TIFF format uses an integrated RGB palette. Colour depth is 8 bit by default.

5 Terms of use and acknowledgement of source

According to the Geodata Access Act (Geodatenzugangsgesetz) this data set is available at no charge via geodata services for download and online use for commercial and non-commercial use.

The use of geodata and geodata services is subject to the *Verordnung zur Festlegung der Nutzungsbestimmungen für die Bereitstellung von Geodaten des Bundes* (GeoNutzV, Regulation on the determination of terms of use for the provision of federal geodata) of 19 March 2013 (Federal Law Gazette 2013, Part I, No 14).

In particular, each user has to place the source remark to all geodata, metadata and geodata services visibly and optically connected. Changes, processings, new designs or other variations have to be provided with a change note in the source remark.

Source remark and change note have to be formulated as follows. When displayed on a web site, the source remark has to be linked with the URL "<http://www.bkg.bund.de>".

© GeoBasis-DE / BKG < year of last data supply >

© GeoBasis-DE / BKG < year of last data supply > (data changed)

Example:

© GeoBasis-DE / BKG 2017

6 Data supply

The data set is supplied free of charge in the most common specifications and as web service under

www.geodatenzentrum.de → *Open Data*

The data set can be ordered in more georeferencings in the Geodata Shop of the Service Centre against reimbursement of the costs. It can be provided on data carrier or via FTP:

www.geodatenzentrum.de → *Online Shop* → *Geodata Shop*

The extra costs for this will be invoiced by the BKG.

Orders may also be addressed to:

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More information and service at www.geodatenzentrum.de.