Data format description of Official Building Polygons of Germany (HU-DE)

For the data distribution from the data stock of the Central Office for House Coordinates and Building Polygons (ZSHH)

Version 2.7   **Stand: 27.01.2023**

Valid from the provision of the HU-DE 2023

1. Description of the data format

The distribution format for Building Polygons (HU) is the AdV Shape format as described in the AdV specifications on the data format "Shape" (AdV Shape Profile, version 1.0.0, updated 31 January 2014). Further information on the AdV Shape format can be found at www.adv-online.de.

2. Data contents

Building Polygons are objects with spatially referenced surrounding polygons that describe the building outlines of the real estate cadastre. Here the object fields of buildings and structures defined (definition according to ALKIS-OK) in ALKIS (Authoritative Real Estate Cadastre Information System) are applied.

The surrounding of the Shape file contains no building parts.

Permitted geometries of the surroundings are polygons and multi-polygons according to the description of the OGC (Open Geospatial Consortium) standard of the OGC specification

„06-103r4_Implementation_Specification_for_Geographic_Information_-_Simple_feature_ access_-_Part_1_Common_Architecture_v1.2.1.pdf".

For the data stock of the Building Polygons all the objects modelled as areas from the following object groups are used:

- AX_Gebaeude
- AX_Turm
- AX_BauwerkOderAnlageFuerIndustrieUndGewerbe
- AX_VorratsbehaelterSpeicherbauwerk
- AX_BauwerkOderAnlageFuerSportFreizeitUndErholung
- AX_SonstigesBauwerkOderSonstigeEinrichtung
- AX_HistorischesBauwerkOderSonstigeEinrichtung

A detailed list of all the defined structure definitions for ALKIS can be found under the following link:

http://repository.gdi-de.org/schemas/adv/citygml/Codelisten/BuildingFunctionTypeAdV.xml

If the objects in this list are recorded in ALKIS (ALK) in the respective Land, their building polygons are to be derived and supplied to ZSHH.

The HU objects have three mandatory attributes:

1. "AGS" (official municipality key):

    "LLRKKGGG" (Land, administrative region, rural/urban district, municipality) = 8 characters without semicolon

    <u>Example</u> of notation: 09184135

Land (LL)	09	Bayern
Administrative region (R)	1	Oberbayern
Rural/urban district (KK)	84	München
Municipality (GGG)	135	Oberschleißheim

    The entries of the attribute "AGS" correspond with the entries of the columns landschl, regbezschl, kreisschl and gmdschl in the address-file "House Coordinates of Germany" (see also data format description of Official House Coordinates of Germany (HK-DE), version 5.0).

2. "OI" (Objectidentifier)

    The HU objects receive a 16 characters object identifier (OI) as a unique identifier. The notation of the OI is recognized according to the generation rules of the current documentation on the modelling of geoinformation of the official surveying and mapping - GeoInfoDok (currently the main concept as of: 01 June 2019, chapter 3.3.9).

    Example: DEBYvAAAAACA7DsO

3. "GFK" (building function)

    The GFK attribute is linked to the corresponding value of the underlying ALKIS object according to the list of all defined building and structure functions

    (http://repository.gdi-de.org/schemas/adv/citygml/Codelisten/BuildingFunctionTypeAdV.xml)

    occupied.

    Example: 31001_1222

GeoBasis-DE

Hauskoordinaten und Hausumringe des
deutschen Liegenschaftskatasters

Landesamt für Digitalisierung,
Breitband und Vermessung Bayern

Landesamt für Digitalisierung,
Breitband und Vermessung

The coordinates are specified by default in the spatial reference system ETRS89/UTM in zone 32 (without zone code) in metres (East-value EEEEEE,EEE / North-value NNNNNNN,NNN). The notation of the UTM coordinates is obtained from the descriptions of the currently valid GeoInfoDok (currently the main concept as of: 01 June 2019, chapter 4.4.4 Coding of geometry properties in the NAS) on the spatial reference system ETRS89/UTM <zn> in the respective zone <zn> 32 (=EPSG-Code 25832) or 33 (=EPSG-Code 25833).

3. Data files, file names

The Shape format consists of four separate files: the main file, index file, dBASE file and projection file. These files have the specified file extensions ".shp", ".shx", ".dbf" and ".prj". The file name is the same for all four files.

Example:

Main-File:	gebaeude-by.shp
Index-File:	gebaeude-by.shx
dBASE-File:	gebaeude-by.dbf
Projection-File:	gebauede-by.prj

- The dBASE file contains the attributes "AGS", "OI" and "GFK" for each HU object.
- The attribute of the official municipality key "AGS" is in the 1st column, that of the object identifier "OI" in the 2nd column and that of the building function ID "GFK" in the 3rd column of the .dbf file.

4. Distribution possibilities

The Official Building Polygons are by default spatially selected and distributed according to the following criteria:
- administrative unit (smallest unit: whole municipality) or
- geometric boundary (rectangle, polygons).

5. Update

The Official Building Polygon data stock is updated through the submission of complete data, which the Laender provide to the ZSHH by 1 April of the current year.

The current central data stock is generally available for delivery as of 1 July of the current year.

For more details on this information, please do not hesitate to contact ZSHH.

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