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AutoCAD
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Layerdefinitions

1. Syntax of the Layernames

The basic syntax for the name assignment looks as follows:

A_BBB_CCC_DDDE

In doing so the here used "_" must be used fixed and with it the readability and filtering of the divisions according to groups is supported.

2. A ... Main group

The first character of the layername defines the main group of the drawing-entities constructed on such a layer (excluded "X" as a definition for general drawing information like title block, logos)

A	BHG A	civil engineering, architecture
B	BHG B	Furnace, Heater, treater
C	BHG C	chimney, flame exhaust
D	BHG D	columns, reactor
E	BHG E	heat exchanger, cooler, condenser, scrubber
F	BHG F	vessel, separator, filter
G	BHG G	pumps, compressors, turbines, blowers, Mixers, agitator, centrifuge
H	BHG H	pipng
J	BHG J	steel construction, framework, bridges, buildings, rises
K	BHG K	instrumentation, cable, instrumentation, equipment, functions, samplers, gas warning systems
M	BHG M	fire protection
N	BHG N	Electric consumer, flash protection, lighting, phone, communication
P	BHG P	corrosion protection
Q	BHG Q	analysis
T	T BHG	fixed roof tank, floating roof tank, spherical vessel
U	BHG U	cooling tower
V	BHG V	boiler, generator, converter
X	BHG X	general (title block, frame, legend, dimensioning, traffic signs...)
Y	BHG Y	tank truck-, tank wagon-, (un-)loading device, track

3. BBB ... Sub-group

Each main-group has a set of sub-definitions describing the type/membership of the drawing-entities; the number of characters of this group is 3 chars fixed.

For layer-group A

A_AAN outside facilities
A_ANS sectional drawing, views
A_AFK upturn beams
A_AWB sewage washbasins
A_BEB concrete constructions
A_BRU bridge
A_DE_ slap
A_DRA drainage
A_EQP various equipment
A_ERD earth moving
A_ERM furniture
A_ERT technical installations
A_FUN fundament
A_FUP fundament paving
A_FUS fundament pedestal
A_GEB various buildings
A_HAF harbor station
A_KAN canal common
A_MWA measuring building
A_OD_ wall penetration
A_OF_ opening window
A_OFL surface
A_OT_ opening door
A_RA_ room
A_SHA switch houses
A_SRB canal system red - wash water
A_SRG canal system green, clear precipitation water, clear process water
A_SRO canal system red, contaminated precipitation water
A_STG stair, ramp
A_STR Street
A_TFB quiet-laid with assembly-line concrete full
A_TOT quiet-laid not full
A_TRA transformation station
A_VHK dimensioning elevation
A_VMG survey, geodesy
A_WA_ wall
A_WAZ wall-beam/screed

For layer-group B

B_ALG general
B_HEA furnace
B_OEF oven
B_TRE treater

For layer-group C

C_ALG common
C_FAC flame exhaust
C_SST chimney

For layer-group D

D_ALG common
D_KOL columns
D_REA reactors

For layer-group E

E_ALG common
E_KKL condenser/cooler air
E_KKW condenser/cooler water
E_KOK condenser/cooler general
E_WTV heat exchanger/evaporator

For layer-group F

F_ALG common
F_ABS separator
F_BEH vessel
F_FIL filter

For layer-group G

G_ALG common
G_MIZ mixer/centrifuges
G_PUM pumps
G_VTG compressors, turbines, blowers

For layer-group H

H_ALG common
H_ABW sewage pressure pipe
H_AOF sewage free of oil
H_AOH sewage oily
H_DSL DEA-Slop
H_ESG flame exhaust gas, relaxation pipeline for gas-shaped hydrocarbons
H_ESF relaxation pipeline liquidly
H_FGA H₂S flame exhaust gas
H_SCH other chemicals
H_SLO slop
H_OSL slop open
H_DRS slop pressurized
H_DLS slop unpressurized
H_SLM mud
H_LGR border of pipeline
H_ERR structural error
H_DPF steam
H_01D steam 1.3cash
H_04D steam 4cash
H_12D IP steam 12cash
H_70D HP steam 70cash
H_99D HP steam 110cash
H_SAD saturated vapour
H_HDW HP-washing water
H_HDS HP-feed water

H_KSW boiler feed water
H_KWR cooling water return
H_KWV cooling water forerun
H_KZW cooling additional water
H_MDS middle pressure feed water
H_NDS low pressure feed water
H_NUW industrial water
H_PRW process water
H_QUW Quench water
H_SPW sealing water
H_TRW drinking water
H_ROW untreated water
H_BRW spring water
H_SAW sour water
H_TEW temp. water (max. 110°C)
H_KON condensate
H_07K condensate 0.7cash
H_04K LP condensate 4cash
H_12K IP condensate 12cash
H_DKO condensate is relaxing <100°C
H_HDK HP condensate
H_TKO turbine condensate
H_SLD SO2 solution / H2O steam
H_GOV gear oil forerun
H_GOR gear oil return run
H_WTV heat transfer oil preliminary heat
H_WTR heat transfer oil return
H_AMM ammoniacal gas
H_PHP phosphate
H_DEO deionat
H_EG3 natural gas 3.8cash
H_EHV natural gas HP consumption
H_EHD natural gas high pressure
H_MIG mixed gas
H_EKG decokinggas
H_PRY propylene
H_PRO propane
H_BUT butane
H_STG strippergas
H_OXY oxynol
H_LAU base
H_SAE acid
H_INH inhibitor
H_ILU instrument air
H_FLU field air
H_HLU hot air
H_TLU drying air
H_VLU combustion air
H_BRL fuel air (synth. air)
H_BRG fuel gas (H2)

H_SPG flushing gas (N2)
H_RAG furnes
H_REG pure gas
H_AC2 residual gas AC2
H_PCD residual gas PCD
H_TGA tailgas
H_VGA ventgas
H_STS nitrate
H_HGA heating gas
H_PRG process gas SO2-Rea
H_TEL fuel-tank venting pipe run
H_EDS crackgas
H_SWS hydrosulfide
H_ALO used oil
H_ROO crude oil
H_SPI spindeloil
H_ATK ATK
H_DON Danube pipe runs
H_ERG natural gas
H_RSG fuelgas
H_FLG liquid gas
H_BIT bitumen
H_GOE gas oil
H_HZO fuel oil
H_DKO diesel
H_DKF DK-Fame
H_DKE DK-Export
H_OKO gasoline
H_WST hydrogen
H_SAS S-lean oxygen
H_SWF sulphur
H_PEG polyethylenglykol
H_MEH methanol
H_ATH ethylene
H_UNI unifinat
H_PLW PLW
H_KWG hydrocarbons gas-shaped
H_KWF hydrocarbons liquid
H_ISO iso. drawoff
H_MBI midcut (naphtha)
H_IC5 IC5
H_PF3 PF3 drawoff
H_RD4 straight run naphtha
H_LBI light naphtha
H_C02 C2
H_C03 C3
H_C04 C4
H_C05 C5
H_SEK secondary Oil
H_DCK hydraulic (pressurized) oil

H_SSO trip oil
H_PRE (prime) loop oil
H_STL control line oil
H_FWV district heating flow
H_FMD extrinsic line

For layer-group J

J_ALG common
J_BUE stages rises
J_GER apparatus scaffoldings
J_HAG resound, building
J_HEB lifting device
J_RBS pipe bridges, pipe props

For layer-group K

K_ALG common
K_FKT functions
K_GER devices
K_PLS process control system
K_KAB cable
K_KNS cable lower voltage (<1kV)
K_LWL fiber optic cable
K_KTR cable trays

For layer-group M

M_ALG general
M_BBB structural fire protection
M_BBE fire detection system
M_BBR fire protection sprinkling
M_BBS fire protection foaming
M_BLV extinguishing agent supply
M_BSS radiation protection
M_BFL fire protection fire-extinguishing water
M_BSM fire protection foam resource water mixture
M_BGS danger area
M_EX0 exzone 0
M_EX1 exzone 1
M_EX2 exzone 2
M_MLE mobile extinguishing installation
M_SLE fixed extinguishing installation
M_SPL flush pipeline
M_HYD hydrant
M_BSO fire protection common

For layer-group N

N_ALG common
N_BEL lighting
N_BMS fire detecting systems
N_ERD ground, flash protection
N_HZG heat tracing
N_KAB cable

N_KHS cable high voltage ($\geq 1\text{kV}$)
N_KOM phone, communication
N_NTR N-tray
N_VER E-consumer, engine

For layer-group Q

Q_ALG common
Q_ATK analysis technology
Q_ATP analysis technology, samples
Q_FKT functions
Q_GER devices
Q_GWS gas warning systems
Q_PLS process control system
Q_KAB cable
Q_KNS cable lower voltage ($< 1\text{kV}$)
Q_LWL fiber optic cable
Q_KTR cable trays
Q_HLK heating, ventilation, air conditioning

For layer-group T

T_ALG common
T_TFD fixed roof tank
T_TKU spherical vessel
T_TSD floating roof

For layer-group U

U_ALG common
U_KTU cooling tower

For layer-group X

X_ALG common
X_AGR equipment border
X_ANS sectional drawing, views
X_BRA plan border
X_DET details
X_EDM global text for electronic documentation system
X_GEO geography
X_GST parcel numbering
X_INF global information
X_KOO coordinates
X_LEG legend
X_MIT symmetry line
X_NPF north arrow
X_SFL cross section
X_SKO title block
X_SIA security analyses
X_TXT global text
X_VER cross reference
X_VZS Traffic signs street including matching ones Addition boards
X_VZB Traffic signs road including directly matching ones addition boards
X_VZZ Traffic signs addition board

X_VZX barrier, turnstiles, traffic light with barrier
X_ZAU fence

For layer-group Y

Y_GEL rails
Y_VEL loading device

4. CCC ... element-type

Type of the elements within sub-group

. _ ... _ALG=	general (should only be used in combination with sub-group B = "ALG" and only in case there is no available layername for the type of the entity)
. _ ... _GRA=	graphic elements
. _ ... _SFF=	hatching/filling (except traffic sign layer)
. _ ... _TXT=	text and attributes

5. DDD ... state

Defines the state of the drawn element

. _ ... _ ... _BES	existing	
. _ ... _ ... _NEU	new	
. _ ... _ ... _DEM	dismantle	
. _ ... _ ... _VER	displacement	
. _ ... _ ... _STG	decommissioning	

6. E ... scale code

If representation vary between different scales the last character defines the scale when an geometry-element has to be plotable. 

. _ ... _ ... _ ... 1	M 1:1 to 1:5
. _ ... _ ... _ ... 2	M 1:10 to 1:25
. _ ... _ ... _ ... 3	M 1:50 to 1:100
. _ ... _ ... _ ... 4	M 1:200 to 1:500
. _ ... _ ... _ ... 5	M 1:1000 to 1:5000
. _ ... _ ... _ ... D	3D, no graduation

7. Exceptions

Exceptions are only allowed for layer "ALG" (common-, non classifiable geometry) and for dimensioning.

Here stated "_" have to be placed at the same character-positions as shown before, and with the same character "wholes" of the layername-structure have to be filled.

The name assignment looks as follows:

X_ANS_SCH_____	views, slice
X_INF_____	information
X_SFL_____	cut surface
X_STK_____	parts list
X_TXT_ALG_____	text
X_VER_____	plan references
X_AGR_ALG_____	battery limit
X_ALG_ALG_____	general
X_BRA_ALG_____	sheet frames
X_DET_ALG_____	details
X_GEO_ALG_____	geography
X_KOO_ALG_____	coordinate
X_LEG_ALG_____	legend
X_MIT_ALG_____	center line
X_NPF_ALG_____	north arrow
X_SKO_ALG_____	title block general
X_ALG_GRA_____	graphic elements
X_SKO_IND_____	title block index
X_ALG_SFF_____	hatches/filling common
X_DET_SFF_____	hatches/filling detail
X_ALG_STL_____	bom (bill of materials)
X_AGR_TXT_____	equipment border text
X_ALG_TXT_____	common text
X_BRA_TXT_____	sheet frames text
X_DET_TXT_____	detail text
X_GEO_TXT_____	geography text
X_KOO_TXT_____	coordinates text
X_LEG_TXT_____	legend Text
X_SKO_TXT_____	title block text
X_AGR_VER_____	equipment border references
X_ALG_VER_____	general references
X_DET_VER_____	details references
X_EDM_TXT_____	text for EDMS adaptation
X_BEM_____	without scale
X_BEM_____1	scale M 1: 50
X_BEM_____2	scale M 1: 100
X_BEM_____3	scale M 1: 200
X_BEM_____4	scale M 1: 250
X_BEM_____5	scale M 1: 500
X_BEM_____6	scale M 1: 1000
X_BEM_____7	scale M 1: in 2000
X_BEM_____8	scale M 1: 5000
X_BEM_____9	scale M 1: 10000
X_BEM_____A	scale M 1: 1 up to 1: 5
X_BEM_____B	scale M 1: 10 up to 1: 25
X_BEM_____D	3D no graduation

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