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ISO: 9001:2016

CWS

DEKAB | PVC TUBES | ZEKAN CHAMBERS
CABLE DUCTS | CABLE TROUGHS ZEKAN OTHER
AND CUSTOM MANUFACTURE

WWW.CWS.CZ



PRODUCT CATALOGUE



CABLE COVER BOARDS AND STRIPS

			Quantity on a pallet	Truckload quantity (pc)
Cable cover plate	DEKAB 120/2	PVC	1000	70 000
Cable cover plate	DEKAB 150/2	PVC	1000	56 000
Cable cover plate	DEKAB 170/2	PVC	1000	48 000
Cable cover plate	DEKAB 180/2	PVC	1000	48 000
Cable cover plate	DEKAB 200/2	PVC	1000	46 000
Cable cover plate	DEKAB 220/2	PVC	1000	46 000
Cable cover plate	DEKAB 250/2	PVC	1000	34 000
Cable cover plate	DEKAB 300/2	PVC	1000	28 000

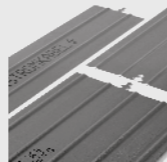
CABLE COVER PLATES AND REELS DEKAB® Z PE

			Quantity on a pallet	Truckload quantity (pc)
Cable cover plate	DEKAB 120/2	PE	1000	24 000
Cable cover plate	DEKAB 150/2	PE	1000	24 000
Cable cover plate	DEKAB 170/2	PE	1000	24 000
Cable cover plate	DEKAB 180/2	PE	1000	24 000
Cable cover plate	DEKAB 220/2	PE	1000	24 000
Cable cover plate	DEKAB 250/2	PE	1000	24 000
Cable cover plate	DEKAB 300/2	PE	1000	24 000
Cable cover plate	DEKAB 250/3	PE	500	24 000
Cable cover plate	DEKAB 300/3	PE	500	24 000
Cable cover plate	DEKAB 125/4	PE	1000	56 000
Cable cover plate	DEKAB 170/4	PE	1000	46 000
Cable cover plate	DEKAB 250/4	PE	500	22 000
Cable cover plate	DEKAB 300/4	PE	500	22 000
Cable cover plate	DEKAB 250/6	PE	500	24 000
Cable cover plate	DEKAB FLEX 125/4	PE - 25 m	48	2304
Cable cover plate	DEKAB FLEX 170/4	PE - 25 m	36	1836
Cable cover plate	DEKAB FLEX 300/4	PE - 25 m	32	1312
Cable cover plate	DEKAB FLEX 250/3	PE - 25 m	27	1080
Cable cover plate	DEKAB STRONG 250/8		500	13 500
Cable cover plate	DEKAB STRONG 250/10		500	11 000
Cable cover plate	DEKAB STRONG 250/12		500	11 000

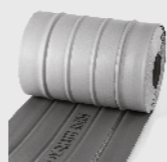
The cable cover plates are used for the mechanical protection of underground cables. Performs warning and identification function. They are made of PVC and HDPE. For covering of straight routes without curves, PE reels are supplied to make laying easier and faster. The plates can be made in various colours with the required labelling. The plates and reels are fitted with a lock to ensure solid longitudinal connection of belts so they are longitudinally overlapping. The joints provide covering in slight curves both vertically and horizontally. The lock design ensures, fixed plate connection to avoid shifting when the plates are covered using mechanical equipment.

TYPES
OF COVER
PLATES

PLATES



BELTS



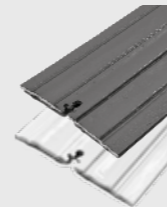
RH



HA



STRONG

EXAMPLES
OF
ASSEMBLIES

2 X 2



2 X 3



3 X 3



2 X 4



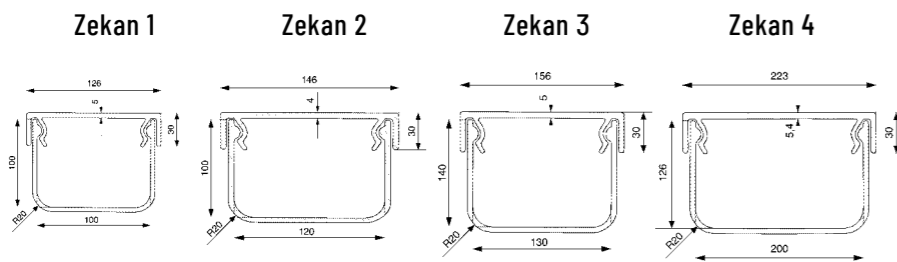
3 X 4



Type of tubes	Loadability Class	Quantity on a pallet	Truckload quantity (pc)
PVC 032/2,1	4	150	2400
PVC 040/2,3	4	100	1600
PVC 050/2,9	4	200	3200
PVC 063/1,9	2	140	2240
PVC 063/3,0	3	140	2240
PVC 075/1,8	2	105	1680
PVC 075/2,2	3	105	1680
PVC 075/3,6	4	105	1680
PVC 090/1,8	2	72	1152
PVC 090/2,7	3	72	1152
PVC 090/4,3	4	72	1152
PVC 110/2,2	2	50	800
PVC 110/3,2	3	50	800
PVC 110/5,3	4	50	800
PVC 125/3,7	3	34	544
PVC 140/4,1	3	26	416
PVC 160/3,2	2	26	416
PVC 160/4,7	3	26	416
PVC 200/4,0	2	23	276
PVC 200/5,9	4	23	276

PVC tube protectors are used for laying and protection of cables in power-generation and telecommunication networks laid in the ground and during the cable duct construction. The spectrum of PVC tube usage is wide. It can be laid freely in a ditch, cast in concrete or pushed through a carriageway, track body etc. Shaped segments from a system of sewage pipes (elbows etc.) can be used upon a request for a bend in a route. Pipes with UV stabiliser can be used in the outdoors to protect lead-in wires. They are made in three loadability classes for different loading environments with varying wall thickness in standardized dimensions. The standard length is 6000 or 4000 mm.

They are made with slide-in neck (when needed, tube protectors can be fitted with glue in the connection) or a neck with a lip seal. Extended neck can be custom made for both variants.



ZEKAN® CABLE TROUGHS

	Quantity on a pallet	Truckload quantity (pc)
ZEKAN 1 100 x 100 mm	70 pc	1680
ZEKAN 2 120 x 100 mm	63 pc	1512
ZEKAN 3 130 x 140 mm	48 pc	1152
ZEKAN 4 200 x 126 mm	35 pc	910

Cable troughs are designed for laying into the ground. They are used for the construction of rail-road corridors, power-generation grids and other utility lines. It is used for mechanical protection of cables, allowing a repeated access to the route for repairs or completion of cables. The bottom parts are connected by locking into the connector longitudinally against each other. The top and bottom parts are connected by a bar lock. The top parts are installed to overlap the bottom-part joints and to prevent a cable damage by shear. It ensures the compactness of the route and prevents sliding of the top part, caused by the undulated cable or its sliding during back-filling. The troughs are used as subsequent mechanical protection of cables already laid and installed. The troughs are supplied with connectors, shaped parts can be custom delivered - bends, T-shapes, ascending and descending parts. As standard they are supplied in 2-m lengths. Troughs can be custom delivered in different lengths. The trough covers can be made in various colours and eventually with a required labelling. The troughs have a high mechanical strength. In comparison with concrete troughs they are lighter, manual handling is easier, without mechanization, they can be processed with usual tools for metal and wood. Its transport is much cheaper. Several times higher quantity can be loaded on a truck than in case of concrete troughs.

ACCESSORIES SYSTEM

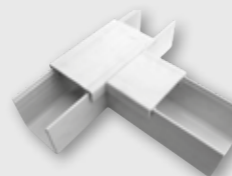
COUPLINGS



BENDING FORCES



T-PIECES

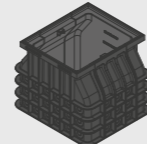


BASIC DIMENSIONS LINE

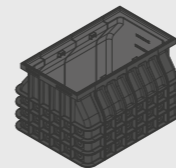
ZEKAN S
1020 X 420



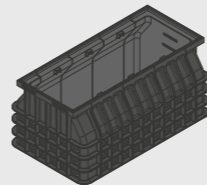
ZEKAN M
1020 X 840



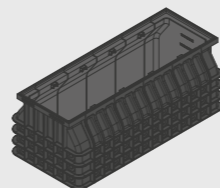
ZEKAN L
1020 X 1260



ZEKAN XL
1020 X 1680



ZEKAN XXL
1020 X 2100



ZEKAN cable chambers are used for construction of cable ducts as access points of cable routes for installation of elements, crossings, branching and cable inspection. Other elements of utility lines can be installed into them. Compared to concrete or walled chambers, they are significantly lighter, parts are made of HDPE. It can be installed easily and quickly and due to the modular system it allows up-to-date change of chamber dimensions according to any changes of the project or construction. Its mechanical loadability is high, it matches the parameters of ČSN EN 124 standard. In the basic version the side and front chambers have pre-moulded apertures for cable protector tubes dia 63 mm and dia 110 mm. When needed, the protector tubes orifices for dia 160mm or 200mm the chamber can be made of appropriate parts. The pitch of protector tubes' orifices are the same as the pitch of distance spacers, to which the protector tubes are attached in the cable duct. Having the quantity and layout of protector tubes for the specification of chamber shape and dimensions is important. Chamber orifices can be easily made with curving drill for the required orifice diameter. Engineering process is prepared for the chamber installation, specifying the height and quantity of concrete rings (according to chamber height).

The chambers in standard version are supplied in the following dimensions [mm] - lower chamber parts:

ZEKAN S	1020 x 464	Quantity of no. 1 hatch segments
ZEKAN M	1020 x 884	Quantity of no. 2 hatch segments
ZEKAN L	1020 x 1304	Quantity of no. 3 hatch segments
ZEKAN XL	1020 x 1724	Quantity of no. 4 hatch segments
ZEKAN XXL	1020 x 2144	Quantity of no. 5 hatch segments

The height of chambers in the basic version is 800 mm. At a request for a higher chamber the height will always be increased by 280 mm (chamber section height). When the requested chamber is larger than the standard offer, a chamber can be created, allowed by the modular system of parts. The chambers are marked ZEKAN GRANDE and are always solved individually. An installation process guide is prepared for these chambers. Composite or cast-iron covers are supplied for cable chambers. The covers are made in segments with dimensions of 666 x 420 mm. The number of segments matches the dimensions of the chamber in question.

The covers are made of composite materials, the surface is in anti-slip finish in the concrete colour RAL 7023. The cover is paced in a duralumin frame, fixed to the top chamber edge. The cover is fixed to the duralumin chamber frame by stainless-steel bolts in a stainless-steel washer. The advantages of the composites is their low weight and resilience against atmospheric effects and agents used to treat the surface of roads and parking lots. These covers are not stolen by metal thieves.

The covers are made of cast-iron, the surface has anti-slip treatment. The cover is placed in a steel frame, which is fitted with an armature for neck concreting. Engineering process is created for the frame installation, resolving the creation of a concrete collar on the top edge of the chamber and subsequent alternate concrete laying of the frame. The concrete types are specified. The concreting process and the specified concrete types must be observed. The cover is attached to the steel chamber frame by stainless-steel Allen-head screws. The advantage of cast-iron covers is their high mechanical strength. The disadvantage is the higher weight.

COVERS
MADE OF COMPOSITES
- LOADABILITY B 125
(12,5T)

CAST IRON LIDS
- LOADABILITY
D 400 (40T)



A cable duct is a system of laying of cable protector tubes in the ground, which serves the protection of cable routes against mechanical damage. It comprises of tubes in layers in the desired number and layout. The tubes pitch is delimited by distance spacers, into which it is locked. The tubes provide a connection of individual cable chambers or orifices into objects.

Cable protectors, PVC tubes, are used to lead the cables between individual cable chambers, with a neck fitted with a lip seal or slip-in neck. Ensuring the mechanical strength of the cable duct requires the observation of the recommended method of compacting of the backfilling material. The system is prepared for a simple installation of cable protector tubes from dia 63 mm to 200 mm. The spatial separation of individual pipes and filling by backfill material in the cable duct body ensures the protection of parallel cable ducts. In case of a power-cable failure, the parallel line in the adjacent tube is protected against the impacts of electric arc. For the protection of parallel lines along an HV cable it is recommended to fill the cable duct with siliceous sand, which has a high resilience against high temperatures. PVC is self-extinguishing, it prevents burning of protector tubes and subsequent spread of fire.

Recommended width of ditch – according to cable duct dimensions 0.5 m wider to ensure handling space of installers.

In the first stage of cable duct construction cable chambers are installed according to the project documentation. The height of the bottom level between the individual chambers is prepared for paying of the cable duct pipes, at the level of bottom edge of the cable chambers.

The passages into chambers are finished according to the diameter and number of pipes and their layout.. Protector tubes are fitted into the passages and locked into distance spacers. Recommended layout of distance spacers is 2 m of cable duct.

The installation of a cable duct starts with the connection of the bottom layer of pipes. When the bottom layer of pipes is laid, distance spacers are fitted to mount another layer of pipes. Individual layers of pipes are backfilled up to the top layer.

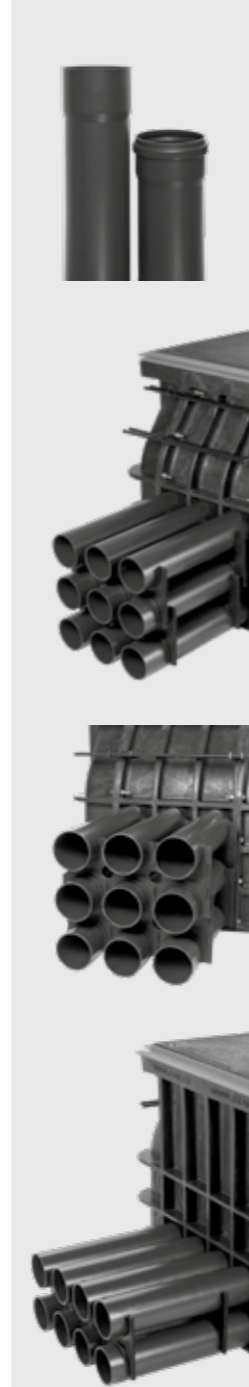
CONNECTION OF PIPE SYSTEM WITH SLIDING NECKS

Pipes are longitudinally connected with sliding necks, fitted on each pipe. To ensure strength or water tightness, the pipes can be glued at the necks. We are using standard glue for PVX (e.g. Tangit PVC U).

CONNECTION OF PIPE SYSTEM WITH RUBBER SEALS

Cable protectors – pipes are connected with necks, which are fitted with lip seal ring. The sealing rings provide perfect seal of a pipe system against ingress of humidity and impurities. During connection the pipes slide fully into the neck and then back by 1.5 cm. This eliminated any length variation due to ambient temperature.

During connection the pipe end with bevelled edge and the neck must be thoroughly cleaned and the sealing ring lubricated with soap water or installation lubricant (no petroleum products may be used to lubricate the sealing rings).



PRODUCT EXAMPLES

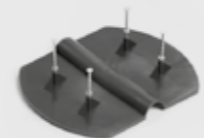
LEAD-IN COVERS



SLEEVES FOR INSULATORS



WOODEN POST COVERS



CWS s.r.o. also provides manufacture of other products used in power generation, construction and telecommunications. This concerns for instance the products stated below:

The lead-in pipe covers, used to cover vertical pipes for cables on transformer station or roof lead-ins. They are designed for pipes with dimensions of 50 – 63 mm and 75 – 90 mm.

Covers for wooden posts to protect the column top against water ingress. They are manufactured for posts with dia 190 mm and dia 220 mm.

Insulator sleeves are used as threaded bushings for installation of an insulator on a metal bracket. They are made in dimensions of 16 mm and 20 mm.

Plastic profiles for round or oval air ducts of AC systems.

Auxiliary construction profiles for installation of plastic windows.

CWS s. r. o. offers custom manufacturing of products according to customers requirements. In case of a requirement for custom manufacture CWS s. r. o. is ready to perform it from design of tools, testing up to final manufacture of a specific product based on contract with financial tools.

CWS S. R. O. AND THE ENVIRONMENT

CWS s. r. o. uses recycled plastic materials in quality suitable to replace valuable virgin (primary plastic) in the application field. The economy of the recycling is very beneficial. Purification, separation of foreign matter and contamination sources, grinding and melting requires 25 % of equivalent energy for manufacture of virgin (primary) material. Recycling of 1 tone of plastic saves app. 2 tons of CO². This significantly reduces the negative impact of manufacture of plastic products on the environment.

The entire manufacturing process in the CWS s. r. o. plant is subject to strict criteria of compliance with environmental protection conditions.