

TECHNICAL GUIDELINES

«Dear customers, in order to improve our service quality, please find enclosed technical sheets for the installation of our standard steel products. If necessary, please contact our services for **any additional technical information that you may need.**»

We take this opportunity to remind you that:

Attention, since the 1st of February 2005, in accordance with EN 40 Standard, a lighting mast can no longer be used as a stick holder if the bracket is not integrated in the calculation of the whole assembly, and hence cannot be CE-marked.

Unless otherwise expressly stated by customer, the equipment ordered is presumed to be used on the delivery site. So, it is according to this delivery location that the technical characteristics of the products delivered are defined.

A lighting column serves to support a public lighting luminaire.

The masts are designed to withstand a given and known load, taking into consideration the constraints of wind related to a geographical area. Any addition of accessory or any mechanical or physical resistance control must be submitted to VALMONT France for approval beforehand.

Unless otherwise specified by you, the allowable weight and surfaces you find in our catalogs are presumed to have been checked and verified when the order is placed. For any questions, please contact our Sales Department.

Any installation of masts and candelabra on massive concrete (calculated by a certified body) must be performed with the anchor bolts defined and provided by Valmont France. The soil survey and the sizing of the concrete foundation must be obligatorily carried out by an approved body.

All work must comply with the acknowledged rules of the art.

Failing this, the warranty, as per our Sales Terms and Conditions, will not apply.

ANNUAL MAINTENANCE

STEEL

Clean the surface of the pole using soapy water for galvanized columns and a polishing product for painted columns.

Carry out the repair of any alterations with a zinc-rich paint.

Physical or chemical etching of the paint may indicate the beginning of a pole deterioration.

ALUMINIUM

Clean the surface of the pole using soapy water for brushed columns and a polishing product for painted masts.

Physical or chemical etching of the paint may indicate the beginning of a pole deterioration.

WOOD

Maintenance of wooden poles consists in renewing the surface layer of glaze. The operation is to be done from the seventh year of installation (5 years on exposed sites).

Maintenance Guide of wooden Poles available upon request.

ACCESS INSPECTION

SECURITY SYSTEM(1)

- The cable must not present any splices or loops other than at their ends. Discard the cable if it shows incipient cracks, excessive corrosion, elongation or deformation compared to the original dimensions or if any component is damaged.

- General periodic checks provided for in Article R233-11 of the Labour Code:

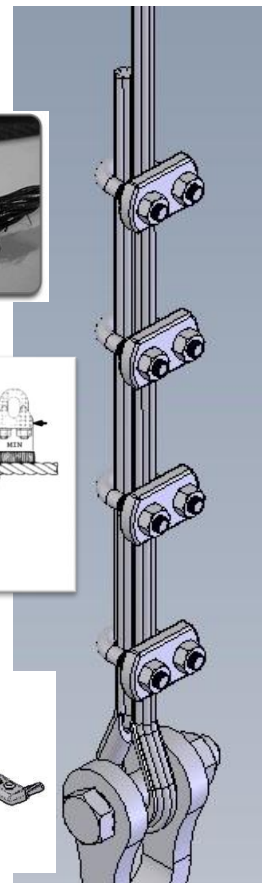
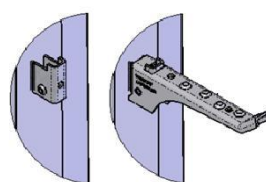
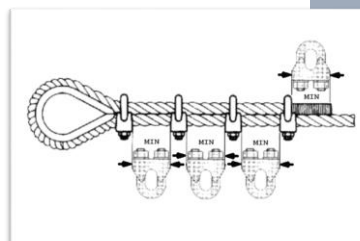
Every twelve months, the cable must be submitted to periodic verification with a careful examination to verify its proper conservation status; particularly to detect any deterioration, such as deformation, hernia, strangulation, broken strands, number of strands broken higher than permissible, damaged latch, or any other limit of use specified by the manufacturer's instruction manual, possibly causing dangerous situations.

- Cable tension and cleaning:

Apply sufficient tension on the cable to prevent it from fluttering in the wind and hitting the mast. Clean with a suitable non-corrosive product.

- State of the harness: whether in use or in stock (less than 12 months), it must be submitted to regular inspections by a competent person at least once every 12 months. A visual examination shall be performed before each use. (see EN 361 standard - Fall arrest harness).

- Check the presence and the correct pinning of ranks



(1) Periodicity : At each intervention on the lamps or lanterns and /or annually as a minimum.

GENERAL CHECKING

CHECKING OF THE FIXING OF ACCESSORIES, LANTERNS, BRACKETS (1 & 2)

Check presence and state of screws on the top of the pole – Carry out tightening controls (See installation instructions).

Check the connection between the bracket and the shaft and the fixing of the lantern.

ACCESS DOORS (2)

Check the adjustment and presence of door.

Check the screws state .



BASE OF POLE (1 & 2)

Remove stagnant water.

Unblock draining holes.

Clean the bottom of the mast.

ANCHOR BOLTS (2)

Lubrication of threads.

Check tightness.

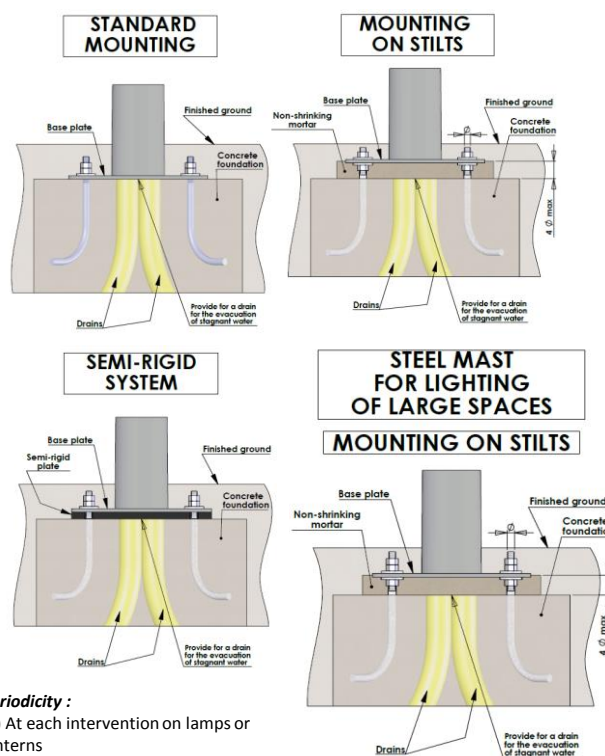
Anchor bolts	Tightening torque
M14	110 N.m
M18	230 N.m
M24	559 N.m
M30	1116 N.m
M36	1939 N.m

THE INDUCED CURRENTS (3)

Soil controls (acidity, conductivity).

Verify the presence of the insulation sleeves on the flange plate (see installation instructions for Aluminium poles).

PROPER INSTALLATION ON A CONCRETE FOUNDATION :



Periodicity :

- (1) At each intervention on lamps or lanterns
- (2) Every year
- (3) Every three years

DECLARAȚIE DE PERFORMANȚĂ model

1. Codul unic de identificare a produsului:

VALSK 333 8

Stâlp de iluminat din oțel, conic fără suport sau cu suport (versiune unică și cu mai multe brațe)

2. Utilizare intenționată sau utilizări:

Stâlpi de iluminat rutier pentru zonele de trafic.

3. Producător:

**VALMONT Polska Sp. z o.o.
ul. Majora Henryka Sucharskiego 6; 08-110 Siedlce; Polonia**

4. Sistemul (sistemele) de evaluare și verificare a constanței performanței:

Sistem 1

5a. Standard armonizat:

EN 40-5: 2004 - "Coloane de iluminat din oțel - Cerințe"

5b. Organism sau organisme notificate:

**Organismul European Notificat Nr. 1488
Departamentul de certificare Instytut Techniki Budowlanej; ul. Filtrów 1; 00-611 Varșovia,
care a eliberat certificatul de conformitate CE nr. 1488-CPR-003/W**

6. Performanță declarată:

Caracteristici esențiale	Performanță
Rezistență la sarcini orizontale	clasa II, 22m/s, 6%
Performanță la impactul vehiculelor	clasa 0
Protecție împotriva coroziunii	Îndeplinește protecția împotriva coroziunii (Galvanizarea la cald la cald EN ISO 1461)

Performanța produsului specificat mai sus este în conformitate cu setul de performanță declarat. Această declarație de performanță este emisă în conformitate cu Regulamentul (UE) nr. 305/2011 sub responsabilitatea exclusivă a producătorului identificat mai sus.

Semnat pentru și în numele fabricantului de către:

Valmont Polska Sp Z o.o.



**INSTYTUT TECHNIKI BUDOWLANEJ
CERTIFICATION DEPARTMENT**

ul. FILTROWA 1, 00-611 WARSAW, POLAND
tel.: + 48 (22) 57 96 167, + 48 (22) 57 96 168, fax: + 48 (22) 57 96 295
e-mail: certyfikacja@itb.pl, www.itb.pl

CERTIFICATION MARK

The company:

VALMONT Polska Sp. z o.o.
ul. Majora Henryka Sucharskiego 6
08-110 Siedlce
Poland

being the manufacturer of the product:

Steel lighting columns

is authorized to use
the ITB certification mark „WYRÓB BUDOWLANY”
during the period of validity of the certificate no. 1488-CPR-0003/W



1488-CPR-0003/W

HEAD
of the Certification Department

Katarzyna Hatowska, M.Sc. Eng.



DEPUTY DIRECTOR
of Instytut Techniki Budowlanej

Anna Panek, M.Sc. Eng.

Warsaw, 11.08.2020



NOTIFIED BODY No. 1488
INSTYTUT TECHNIKI BUDOWLANEJ
CERTIFICATION DEPARTMENT

ul. FILTROWA 1, 00-611 WARSZAWA
ph.: +48 (22) 57 96 167, +48 (22) 57 96 168, fax: +48 (22) 57 96 295
e-mail: certyfikacja@itb.pl, www.itb.pl



CERTIFICATE OF CONSTANCY OF PERFORMANCE
1488-CPR-0003/W

In compliance with Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR), this certificate applies to the construction product

Steel lighting columns

with a circular and polygonal cross-section, without brackets or with brackets (single and multi-armed version),
for mounting luminaires height of 3-18m (poles with brackets) and 3-20m (poles without brackets)
with dimensions in accordance with the requirements of EN 40-2:2004,
mounted on prefabricated foundations or in subsoil

Identification, intended use, essential characteristics and performances of the product are described
in the Annex No. Z-1488-CPR-0003/W which is an integral part of this certificate

placed on the market under the name or trade mark of:

VALMONT Polska Sp. z o.o.
ul. Majora Henryka Sucharskiego 6
08-110 Siedlce
Poland

and produced in the manufacturing plant:

VALMONT Polska Sp. z o.o.
ul. Terespolska 12
08-110 Siedlce
Poland

This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in Annex ZA of the standard:

EN 40-5:2002

under system 1 for the performance set out in this certificate are applied and that the factory production control conducted by the manufacturer is assessed to ensure the constancy of performance of the construction product.

This certificate was first issued on 30.05.2017 as a certificate No 1488-CPD-0003 (updated on 27.03.2020, 11.08.2020) and will remain valid as long as neither the harmonised standard, the construction product, the AVCP methods, nor the manufacturing conditions in the plant are modified significantly, unless suspended or withdrawn by the notified product certification body.

HEAD
of the Certification Department

Katarzyna Hatowska, M.Sc. Eng.



DEPUTY DIRECTOR
of Instytut Techniki Budowlanej

Anna Panek, M.Sc. Eng.

Warsaw, 11.08.2020



INSTYTUT TECHNIKI BUDOWLANEJ
BUILDING RESEARCH INSTITUTE
ZAKŁAD CERTYFIKACJI
CERTIFICATION DEPARTMENT
ul. FILTROWA 1, 00-611 WARSZAWA
tel.: (0 22) 825 52 29, fax: (0 22) 57 96 295



EC-CERTIFICATE OF CONFORMITY

1488 - CPD – 0003

In compliance the Directive 89/106/EEC of the Council of European Communities of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to the construction products (Construction Products Directive - CPD), amended by the Directive 93/68/EEC of the Council of European Communities of 22 July 1993, it has been stated that the construction product

STEEL LIGHTING COLUMNS

circular and octagonal columns, characteristic during vehicle impact (passive safety):
class 0, used at construction and modernization of roads, streets, squares, parks e.t.c.

placed on the market by

VALMONT Polska Spółka z o.o.
ul. Terespolska 12, 08-110 Siedlce, Polska

and produced in the factory

VALMONT Polska Spółka z o.o.
ul. Terespolska 12, 08-110 Siedlce, Polska

is submitted by the manufacturer to a factory production control *and to the further testing of samples taken at the factory in accordance with a prescribed test plan* and that the notified body - *Instytut Techniki Budowlanej* - has performed the initial type-testing for the relevant characteristics of the product, the initial inspection of the factory and of the factory production control and performs the continuous surveillance, assessment and approval of the factory production control.

This certificate attests that all provisions concerning the attestation of conformity and the performances described in the Annex ZA of the standard

PN-EN 40-5:2004

were applied and that the product fulfils all the prescribed requirements.

This certificate was first issued on 01. 02. 2005 and remains valid as long as the conditions laid down in the harmonised technical specification in reference or the manufacturing conditions in the factory or the FPC itself are not modified significantly.

HEAD
of the Certification Department


Jolanta Gust



DIRECTOR
of the Building Research Institute ITB


Stanisław Wierzbicki

Warsaw, 01. 02. 2005

General terms of the Guarantee

For lighting, decorative, traffic light, lightning, tram and utility steel poles and brackets.

Article 1.

Obligations of the Manufacturer

- 1.1. Valmont Polska Sp. z o.o. hereinafter referred to as the Manufacturer provides a guarantee period for anti-corrosive protection by galvanization in accordance with the PN-EN ISO 1461 standard and/or hydrodynamic painting in accordance with the PN-EN ISO 12944 standard or powder coat painting in accordance with the PN-EN ISO 13438.
- 1.2. The guarantee period depends on the degree of the corrosive power of the atmosphere (in accordance with the PN-EN ISO 14713-1 standard) determined by the Ordering Party or the individual assessment of the Manufacturer.
- 1.3. On the basis of the general terms and conditions of the guarantee the Manufacturer provides a 24 months guarantee period (counting from the date of release of the product from the Manufacturer's warehouse) for anti-corrosive protection by galvanization or painting for the corrosive power category C1 to C3 in accordance with the PN-EN ISO 14713-1 standard.
- 1.4. The guarantee for anti-corrosive protection by galvanization or painting for corrosive power category C4 and C5 in accordance with the PN-EN ISO 14713-1 standard is determined by the Manufacturer individually in accordance with Article 1 section 1.5 and is not subject to the general conditions of the guarantee.
- 1.5. There is a possibility of individual arrangements between the Ordering Party and the Manufacturer concerning the guarantee period for the anti-corrosion protection and paint coatings depending on the corrosive power of the environment in which the pole will be installed, the information determined by the Ordering Party and the individual assessment of the Manufacturer. The individual guarantee shall be issued by the Manufacturer in writing.
- 1.6. The Manufacturer is responsible for the physical defects of the objects, such as structural, material and workmanship defects.
- 1.7. The Manufacturer guarantees that during the guarantee period the zinc coating will not degrade above Ri 3 degradation level in accordance with the PN-EN ISO 4628-3 standard.
- 1.8. In the event of a complaint, the Manufacturer is obliged to perform a technical evaluation of the product and to inform the Ordering Party of its result and the possible method of removal of the defects within 14 working days from the receipt of the complaint.
- 1.9. The defects shall be removed no later than within 30 working days, counting from the date of notification of the Ordering Party on the method of removal of the defect. If it is impossible to remove the defect within 30 working days, for reasons beyond the control of the Manufacturer, the Ordering Party shall be informed of this fact and the possible date of removal of the defect shall be provided.

Article 2.

Exclusions of the Manufacturer's liability

- 2.1. The Manufacturer is not liable for defects resulting from normal wear and tear, caused by improper use, resulting from use in an inappropriate environment or wind zone and category of terrain, resulting from modifications or repairs made without the consent of the Manufacturer, and caused by external factors, which have not been provided for in the terms and conditions of the order.
- 2.2. The Manufacturer is not liable for fatigue failure or similar phenomena resulting from induced vibration, harmonic oscillation or resonance associated with movement of air currents around the product.
- 2.3. The guarantee excludes cases of mechanical or chemical damage which occurred after the risk of damage of the product passed to the Ordering Party.
- 2.4. The presence of dark and light gray areas or slightly uneven surfaces does not constitute grounds for a complaint. The occurrence of so-called white corrosion consisting mainly of zinc oxides/zinc hydroxides is not a defect of the anti-corrosive coating and does not constitute grounds for a complaint, in accordance with the PN-EN ISO 1461 standard.
- 2.5. The guarantee does not cover painted products for which defects have been reported by the Ordering Party after the expiry of the deadline specified in Article 3 section 3.7.

Article 3.

Obligations of the Ordering Party

- 3.1. The Ordering Party is obliged to store, install and use the products in the wind zone, category of terrain and corrosive power of the environment which was determined during the order in accordance with the standard.
- 3.2. The unloading, storage and installation shall be carried out in accordance with the Manufacturer's instructions.
- 3.3. During the storage period the products will be stored on props in a way which will prevent any contact with the substrate, the accumulation of atmospheric precipitation and mechanical contamination.
- 3.4. The Ordering Party shall perform the repairs of the coatings damaged during the handling and installation in accordance with the PN-EN ISO 1461 standard, immediately upon receipt and immediately after the installation of the product. The repair should involve the removal of the contamination (dust, oil, grease) from the entire surface of the pole and the cleaning and protection of the damaged areas of the zinc coating using paint with at least 95% zinc content in dry film. The thickness of the zinc coating on the repaired area should measure at least 100 µm and an additional RAL color finish is required in the case of painted structures.
- 3.5. The Ordering Party is obliged to remove the packaging protecting the products within 10 days from the date of issue of the goods by the Manufacturer.
- 3.6. Once every 12 months the user shall conduct an inspection of the coatings and shall secure any coating defects in accordance with Article 3 section 3.4. The Ordering Party shall inform the Manufacturer of the date of the inspection at least 10 working days before the planned inspection and will allow his representatives to participate in it. If a representative of the Manufacturer fails to report for the inspection on the set deadline the Ordering Party shall conduct the inspection on his own. The protocols from the annual inspections shall be immediately sent to the Manufacturer and shall be kept in the records of the Ordering Party.
- 3.7. The Ordering Party is obliged to inform the Manufacturer of possible non-compliance of the shipment with the order, both in terms of quantity and quality of the products, in the form of a formal written complaint within 10 days from the date of issue of the product by the Manufacturer.
- 3.8. The Ordering party is obliged to cease installation of quantitatively or qualitatively inconsistent with the order as long as these inconsistencies can be identified by the buyer prior to installation of the structure. Non-compliance reported by the buyer after the installation of these structures are unfounded and will not be considered by the manufacturer.

Article 4.

Other information

- 4.1. The zinc coating is a technical coating providing the anti-corrosive protection and may not be treated as a decorative coating. In the case of requirements concerning the visual appearance, the use of paint coatings is recommended.
- 4.2. The zinc coating is subject to oxidation processes and changes appearance during usage. It is not possible to provide a uniform appearance of the coating in a batch of posts. The appearance of the zinc coating on poles and brackets may vary. The appearance of the coating will become more homogeneous after about 3-12 months.
- 4.3. The guaranteed IP and IK protection ratings are as follows: IP3X and IK08. This means that water may pass through the gaps in the door of the pole and at the pole's connection with the bracket.

INSTRUKCJA MONTAŻU SŁUPÓW I AKCESORIÓW OŚWIETLENIOWYCH

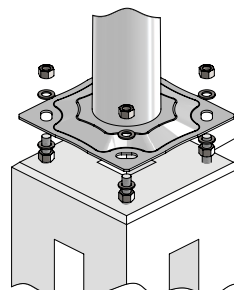
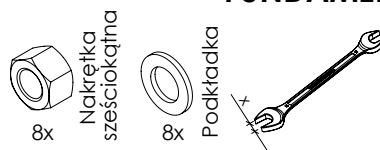


Firma Valmont Polska dokłada wszelkich starań, aby wyprodukowane przez nas konstrukcje oświetleniowe spełniały wymogi jakości określone w normie EN 40 oraz oczekiwania naszych klientów.

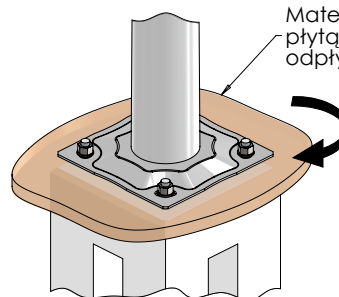
Firma Valmont Polska zastrzega sobie prawo do odmowy uznania reklamacji w przypadku nieprzestrzegania zaleceń niniejszej instrukcji.

Jesteśmy przekonani, że niniejsza instrukcja pomoże Państwu w zamontowaniu i eksploatacji wyprodukowanych przez nas słupów. W razie pytań prosimy o kontakt z naszymi pracownikami.

FUNDAMENT



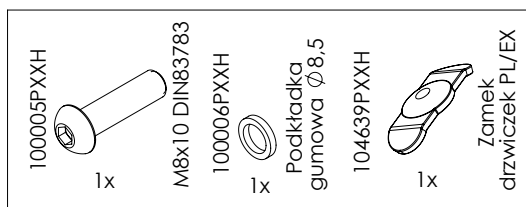
Nakrętki poziomujące



Materiał między fundamentem a płytą podstawy musi umożliwiać odpływ wody (materiał chłonący)

Śruba	5.6/5.8	6.8	8.8	x
M18	...Nm	...Nm	...Nm	27
M24	133Nm	159Nm	212Nm	36
M27	...Nm	...Nm	...Nm	41
M33	...Nm	...Nm	...Nm	50
M39	598Nm	717Nm	957Nm	60

DRZWI



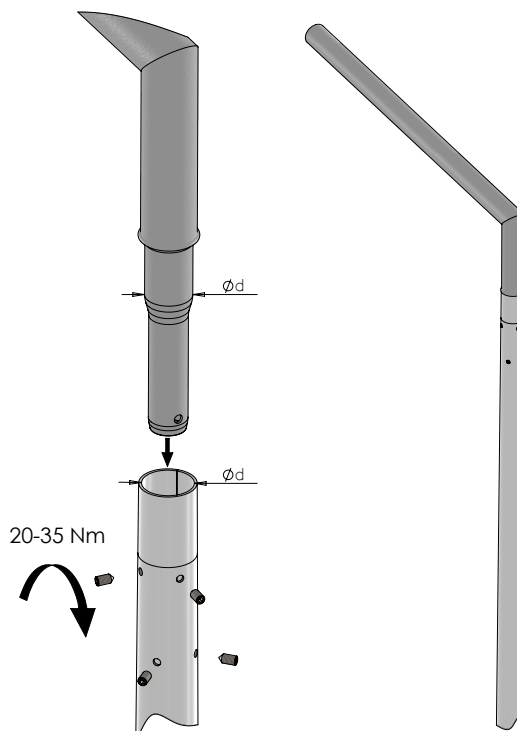
Elementy dostarczone przez Valmont

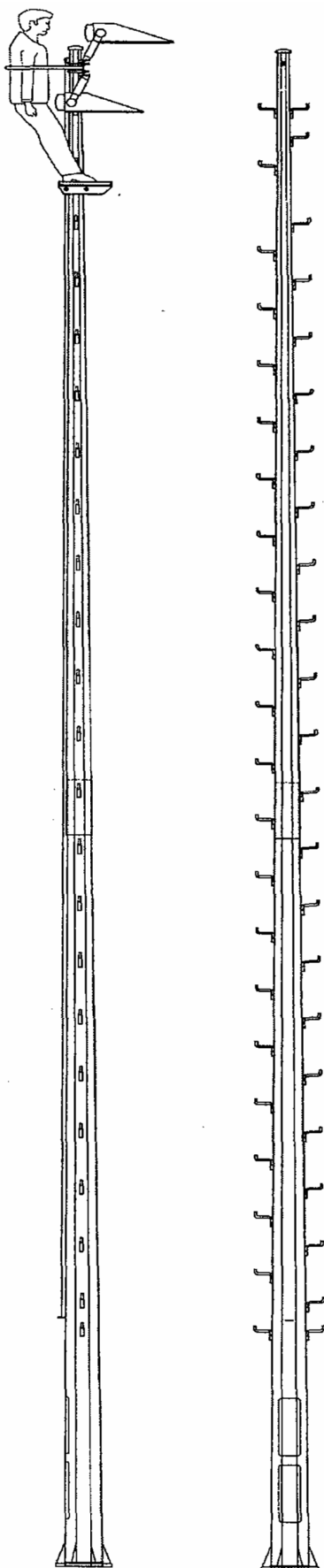


WYSIĘGNIK



Elementy dostarczone przez Valmont



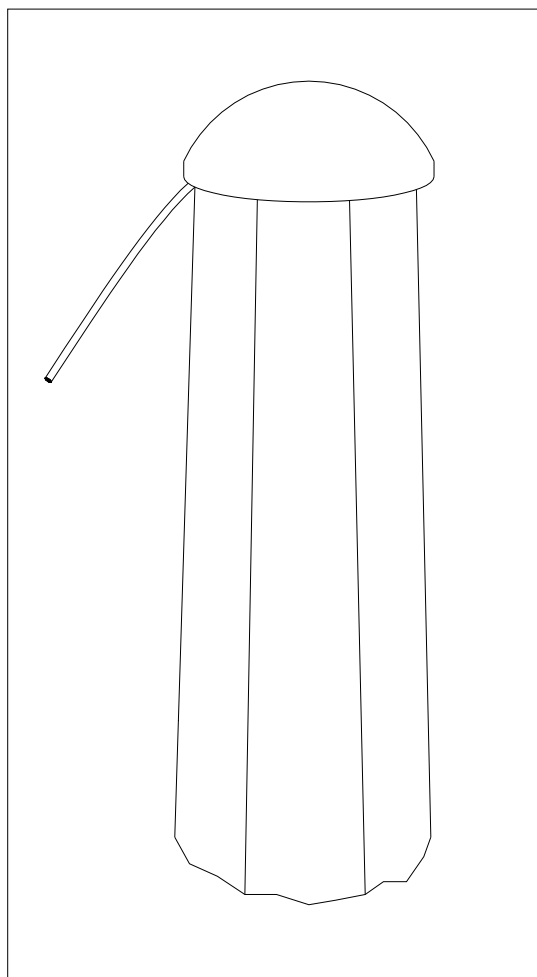
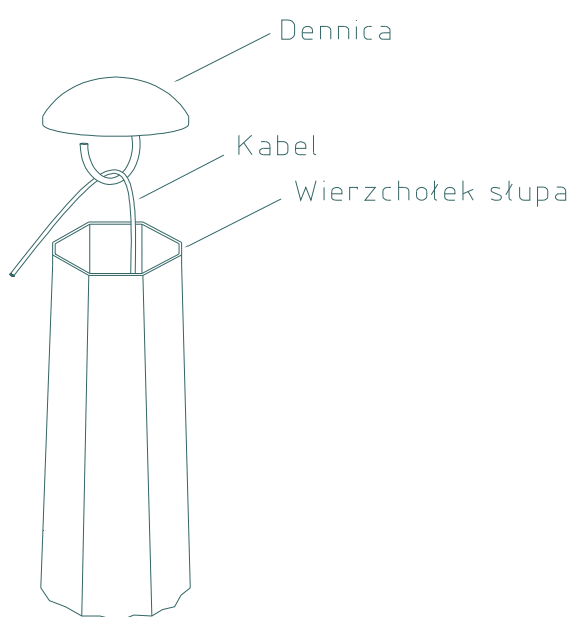


UWAGI OGÓLNE

1. Przed przystąpieniem do wykonania montażu należy dokładnie zapoznać się z instrukcją montażu.
2. Należy sprawdzić czy do zamówionej konstrukcji znajdują się kompletne wyposażenie dodatkowe (szczegół, poprzeczki, wysięgniki, śruby, wkręty itp. zgodnie z dokumentem WZ) w zależności od zamawianej wersji
3. Każda konstrukcja jest oznaczona swoim numerem identyfikacyjnym (nazwa projektu lub numerem zlecenia) odpowiednio do zlecenia.
NALEŻY SPRAWDZIĆ CZY ZGADZA SIĘ TO Z ZAMÓWIENIEM
4. Wszystkie akcesoria jakie mają być zamontowane na słupie (lampy, naświetlacze, poprzeczki, wysięgniki) powinny być montowane na poziomie gruntu, przy montażu sekcji.

Firma Valmont Polska zastrzega sobie prawo do odmowy uznania reklamacji dotyczących jakości lub kompletności dostawy w przypadku nieprzestrzegania niniejszej instrukcji.

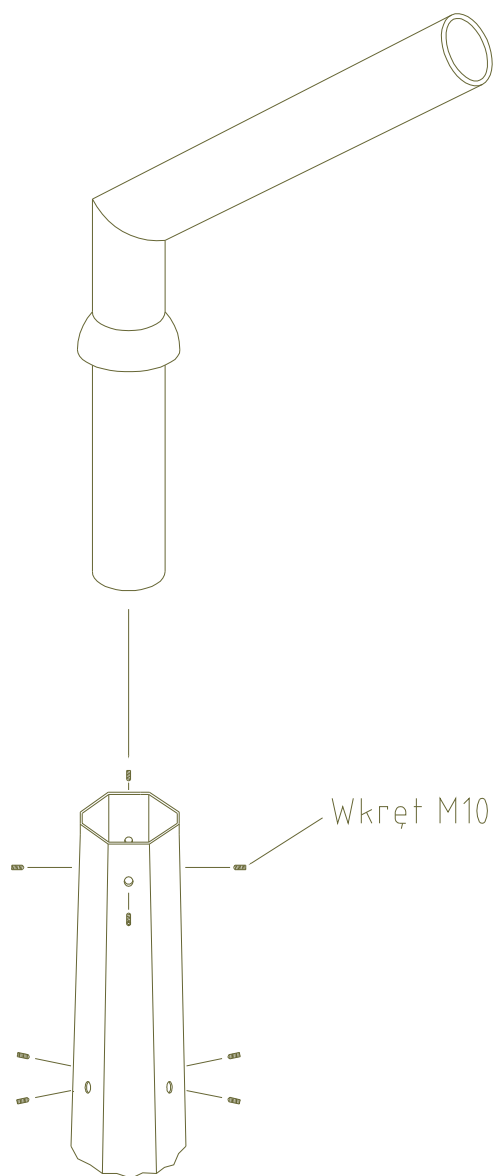
Montaż



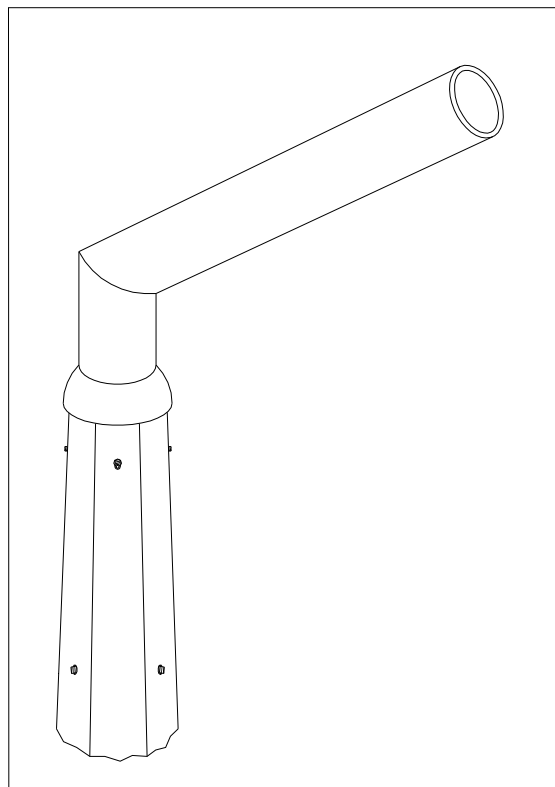
Opis montażu

1. W przypadku gdy w komplecie słupa znajduje się dennica należy wyciągnąć kabel zasilający przez wierzchołek słupa oraz przez ucho dennicy i odmierzyć odpowiednią długość.
2. Nałożyć dennicę na wierzchołek słupa.

Montaż



Wysięgnik

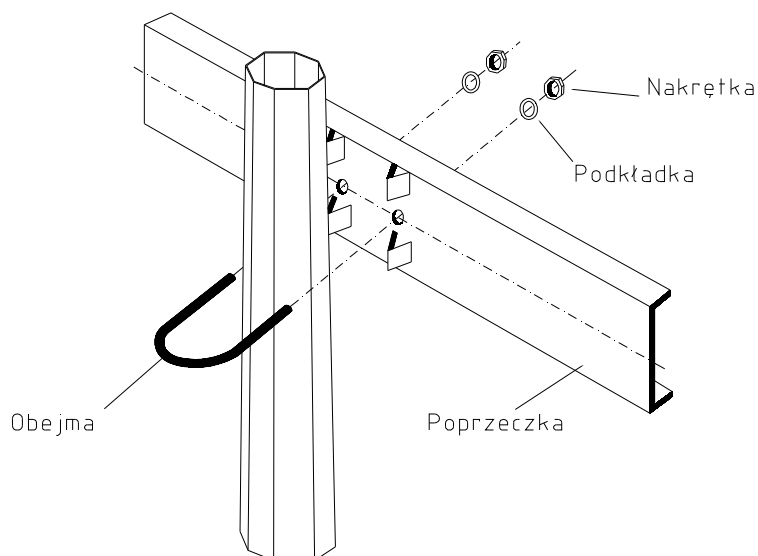


Opis montażu

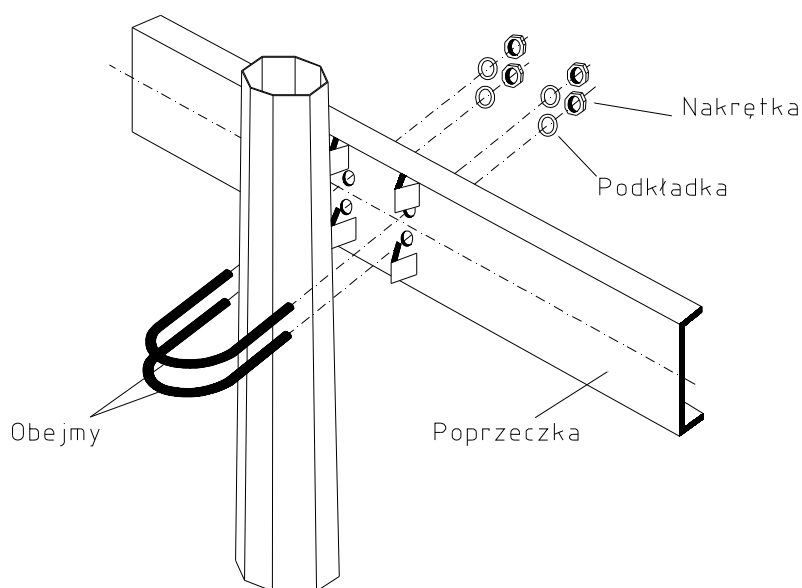
1. Przed nałożeniem wysięgnika na słup, należy sprawdzić czy gwinty znajdujące się w otworach w słupie są wykonane prawidłowo i czy jest przygotowana odpowiednia ilość wkrętów nierdzewnych M10 dostarczonych do zlecenia.
2. W celu ustalenia wysięgnika w osi słupa, dokonać wstępnego montażu poprzez dokręcenie wkrętów. Aby uzyskać wyosiowanie, należy odpowiednio wkręcać lub wykręcać wkręty M10, aż wysięgnik ustali się w oczekiwanej pozycji (więcej szczegółów na ten temat znajduje się w instrukcji montażu wysięgników)

Montaż

Poprzeczka na I obejmę



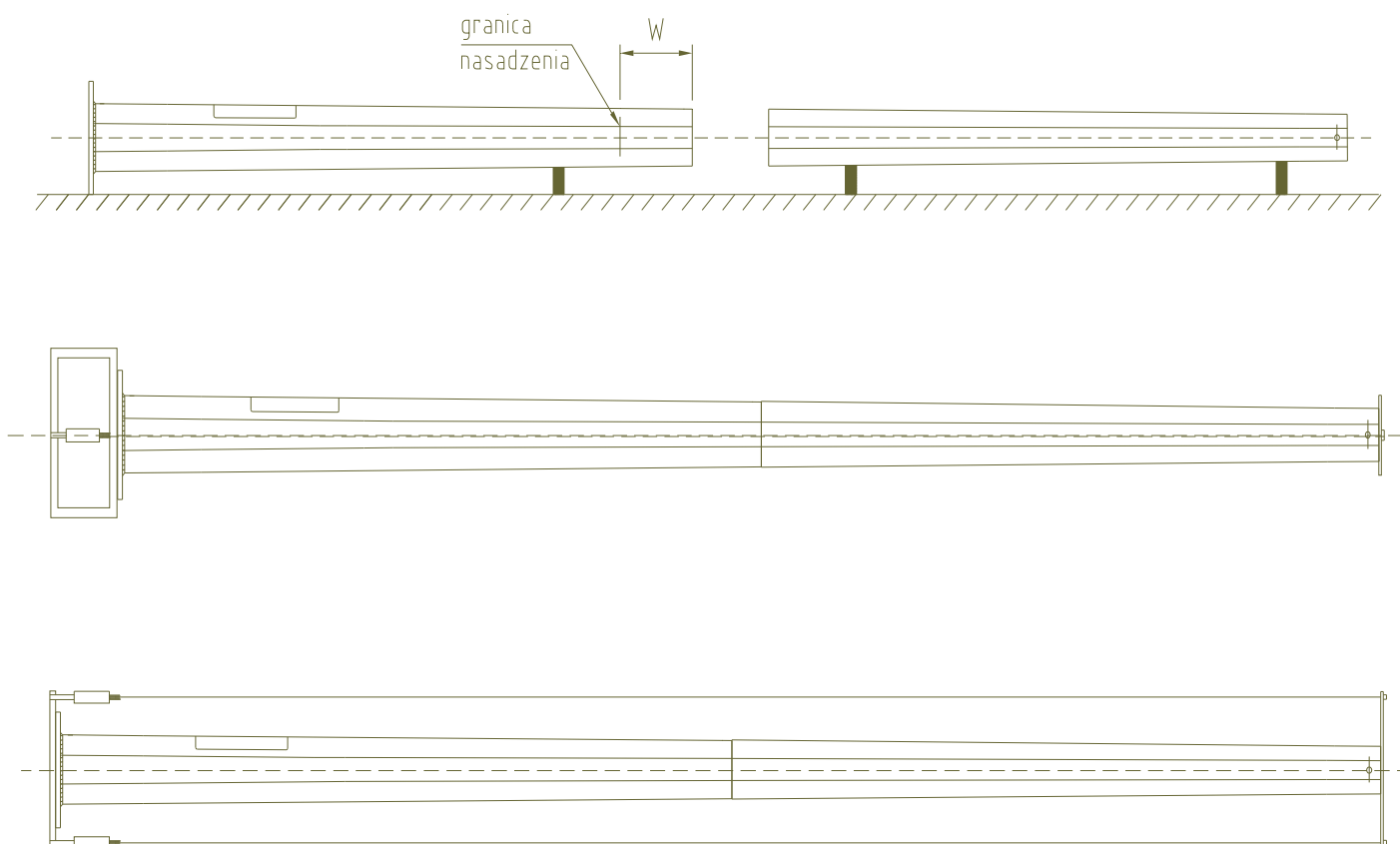
Poprzeczka na II obejmę



Opis montażu

1. Przy montażu poprzeczki należy wstępnie włożyć obejmę w otwory mocujące, nałożyć podkładki i nakręcić nakrętki.
2. Następnie nałożyć poprzeczkę na końcówkę słupa w odpowiedniej pozycji kątowej.
3. Po ustawieniu na odpowiednią odległość należy mocno dokręcić nakrętki.

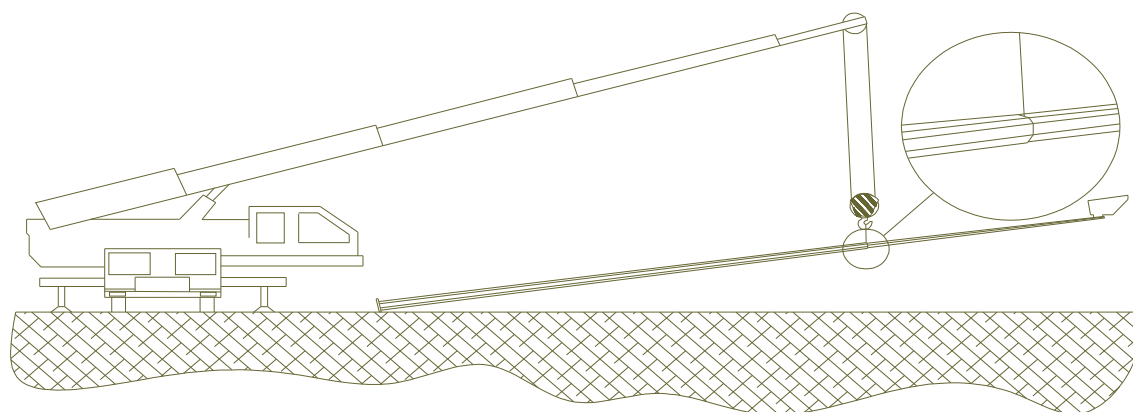
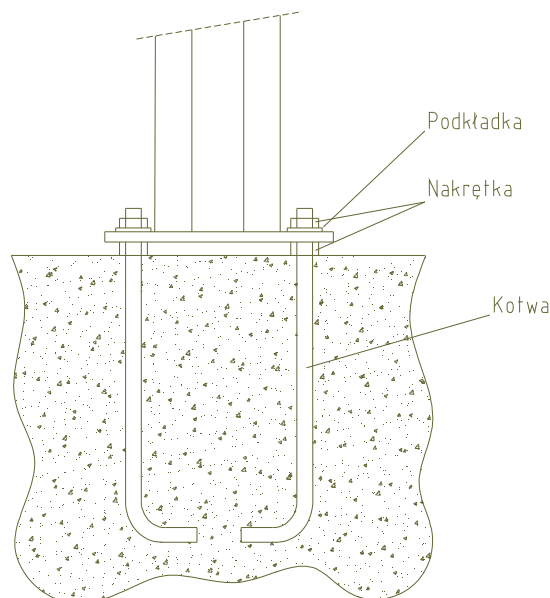
Montaż



Opis montażu trzonów dwusekcyjnych

1. Rozłożyć segmenty słupa na poziomym podłożu w osi. Należy pamiętać o tym, aby segment górny ustawić względem dolnego tak, aby krawędzie ze spoiną wzdłużną pokrywały się po zmontowaniu.
2. Na dolnej części zaznaczyć granicę nasadzenia dla części górnej. Odległość "W" wynika z różnicy między sumą długości obu sekcji i końcową wysokością słupa (wynosi ona najczęściej od 500mm do 600mm)
3. Nasunąć górną sekcję na dolną do lekkiego zaciśnięcia.
4. Mocno wcisnąć górną sekcję na dolną przy pomocy dostępnego urządzenia do ciągnięcia (np. wyciągarki szczękowej). Można tego dokonać przeciągając linę stalową o odpowiedniej wytrzymałości przez środek słupa i użycie wyciągarki. Można także użyć dwóch wyciągarek umieszczonych na zewnątrz (po obu bokach)
5. Po złożeniu sprawdzić głębokość nasadzenia oraz wysokość całkowitą słupa, zdemontować oprzyrządowanie do wciskania.

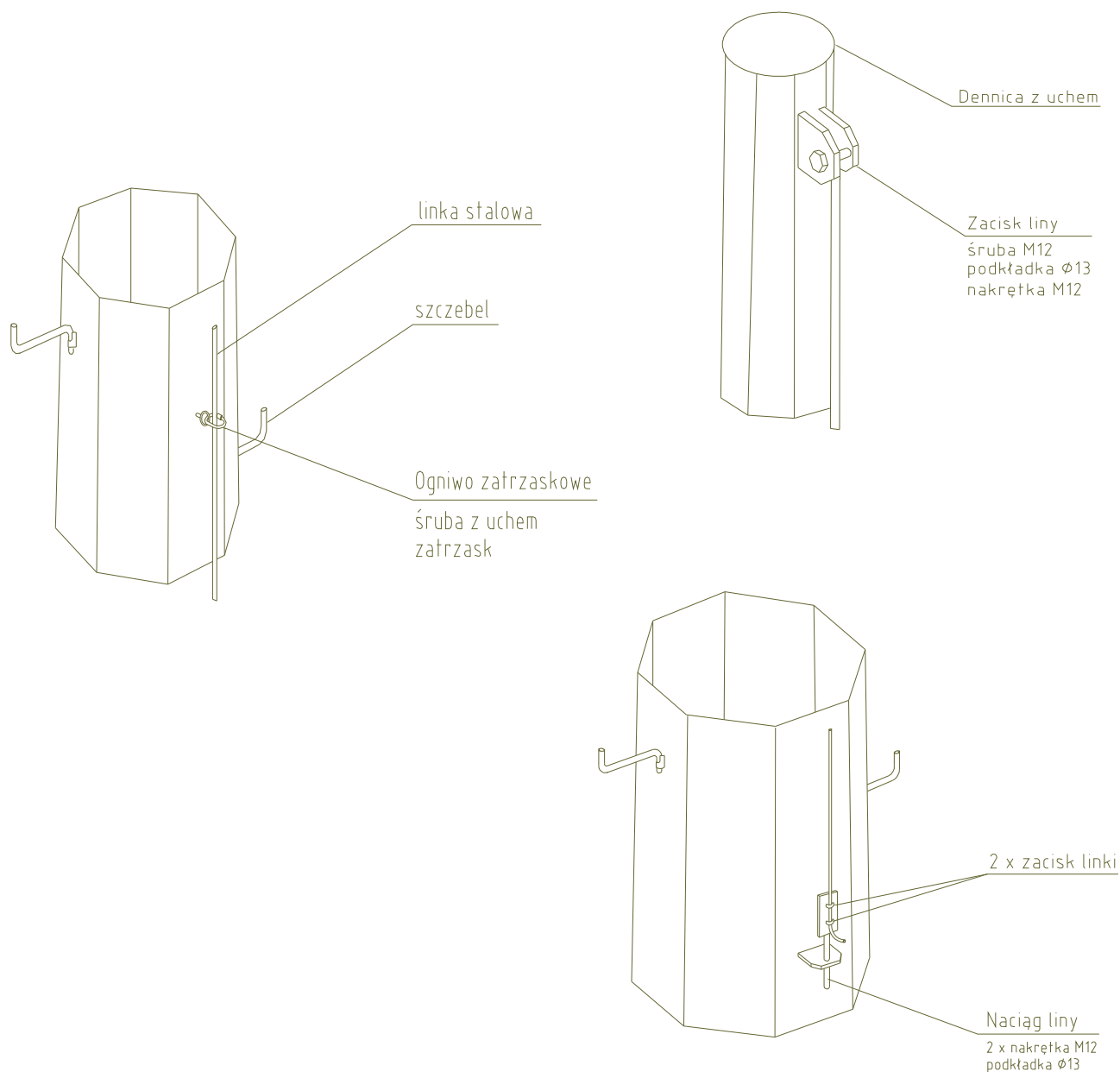
Montaż



Opis montażu

1. Przygotować fundament do posadowienia słupa: odkręcić nakrętki i zdjąć podkładki, zostawiając po jednej nakrętce na każdej kotwie.
2. Zmontowany słup należy chwycić lina elastyczną nieco powyżej środka ciężkości zabezpieczając ją przed sunięciem.
3. Następnie powoli i ostrożnie należy podnosić słup, aż do przyjęcia pozycji niemal pionowej tak, aby podstawa znajdowała się około 30cm nad ziemią i przenieść go nad fundament
4. Ustawić go w położeniu odpowiadającym jego pozycji kierunkowej posadowienia, opuścić, naprowadzając jednocześnie kable od wnętrza trzonu i otwory w podstawie na kotwy. Po osadzeniu słupa nakręcić kolejno na kotwy podkładki i nakrętki.
5. Wypionować wstępnie słup pokręcając nakrętkami od spodu podstawy, a następnie dokręcić nakrętki kotew.
6. Zdjąć zawieszę wraz z zabezpieczeniami.
7. Dokręcić mocno nakrętki, sprawdzić wypionowanie słupa. W razie potrzeby skorygować poprzez poluzowanie lub dokręcenie odpowiedniej nakrętki.

Montaż linki zabezpieczającej i szczepki



Opis montażu

1. Przed przystąpieniem do montażu należy sprawdzić kompletność dostawy i jej jakość (szczepki, linkę, elementy złączne itp.).
2. Zauważone niezgodności w dostawie powinny być niezwłocznie zgłoszone do dostawcy.

MANAGEMENT SYSTEM CERTIFICATE

Certificate no.:
217023-2017-AHSO-POL-RvA

Initial certification date:
14 April 2017

Valid:
23 April 2021 – 14 April 2023

This is to certify that the management system of
VALMONT Polska Sp. z o.o.
ul. Majora Henryka Sucharskiego 6, 08-110 Siedlce, Poland

has been found to conform to the Occupational Health and Safety Management System standard:
ISO 45001:2018

This certificate is valid for the following scope:

Design, manufacture and sale of steel lighting poles, traffic signal poles, tramway poles, utility poles and high masts. Sale of telecommunication masts and towers and aluminum lighting poles.

Place and date:
Barendrecht, 26 April 2021

For the issuing office:
DNV - Business Assurance
Zwolsseweg 1, 2994 LB Barendrecht, Netherlands



Eerie Koek
Management Representative

MANAGEMENT SYSTEM CERTIFICATE

Certificate No:
217023-2017-AHSO-POL-RvA

Initial certification date:
14 April 2017

Valid:
31 July 2020 - 30 September 2021

This is to certify that the management system of

VALMONT Polska Sp. z o.o.

ul. Majora Henryka Sucharskiego 6, 08-110 Siedlce, Poland

has been found to conform to the Occupational Health and Safety Management System standard:

OHSAS 18001:2007

This certificate is valid for the following scope:

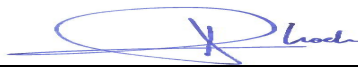
Design, manufacture and sale of steel lighting poles, traffic signal poles, tramway poles, utility poles and high masts. Sale of telecommunication masts and towers and aluminum lighting poles.

Place and date:
Barendrecht, 31 July 2020



For the issuing office:
DNV GL - Business Assurance
Zwolsseweg 1, 2994 LB Barendrecht,
Netherlands




Erie Koek
Management Representative



**INSTYTUT TECHNIKI BUDOWLANEJ
CERTIFICATION DEPARTMENT**

ul. FILTROWA 1, 00-611 WARSAW, POLAND
tel.: + 48 (22) 57 96 167, + 48 (22) 57 96 168, fax: + 48 (22) 57 96 295
e-mail: certyfikacja@itb.pl, www.itb.pl

CERTIFICATION MARK

The company:

VALMONT Polska Sp. z o.o.
ul. Majora Henryka Sucharskiego 6
08-110 Siedlce
Poland

being the manufacturer of the products:

Steel structures and elements of steel structures EXC3 class

is authorized to use

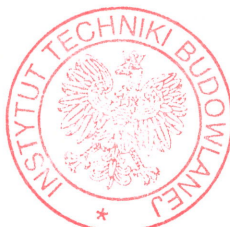
the ITB certification mark „ZAKŁADOWA KONTROLA PRODUKCJI”
during the period of validity of the certificate no. 1488-CPR-0287/Z



1488-CPR-0287/Z

HEAD
of the Certification Department

Katarzyna Hatowska, M.Sc. Eng.



Warsaw, 11.08.2020

DEPUTY DIRECTOR
of Instytut Techniki Budowlanej

Anna Panek, M.Sc. Eng.

CERTIFICATE OF CONFORMITY OF THE FACTORY PRODUCTION CONTROL

1488-CPR-0287/Z

In compliance with Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR), this certificate applies to the construction product

Steel structures and elements of steel structures EXC3 class

performed with use machining treatment, plastic treatment, thermal treatment, welding and mechanical connections

The method of declaration of performance and CE marking

- method 1 according table A.1 EN 1090-1: 2009 + A1: 2011 and Annex ZA 3.2 to EN 1090-1: 2009 + A1: 2011
- method 2 according table A.1 EN 1090-1: 2009 + A1: 2011 and Annex ZA 3.3 to EN 1090-1: 2009 + A1: 2011
- method 3a according table A.1 EN 1090-1: 2009 + A1: 2011 and Annex ZA 3.4 to EN 1090-1: 2009 + A1: 2011
- method 3b according table A.1 EN 1090-1: 2009 + A1: 2011 and Annex ZA 3.5 to EN 1090-1: 2009 + A1: 2011

placed on the market under the name or trade mark of:

VALMONT Polska Sp. z o.o.
ul. Majora Henryka Sucharskiego 6
08-110 Siedlce
Poland

and produced in the manufacturing plant:

VALMONT Polska Sp. z o.o.
ul. Majora Henryka Sucharskiego 6
08-110 Siedlce
Poland

This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in Annex ZA of the standard:

EN 1090-1:2009 + A1:2011

under system 2+ are applied and that the factory production control is assessed to be in conformity with the applicable requirements.

This certificate was first issued on 15.06.2012 as a certificate No 1488-CPD-0287/Z (updated on 27.06.2018, 11.08.2020) and will remain valid as long as neither the harmonised standard, the construction product, the AVCP methods, nor the manufacturing conditions in the plant are modified significantly, unless suspended or withdrawn by the notified factory production control certification body.

HEAD
of the Certification Department

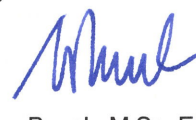


Katarzyna Hatowska, M.Sc. Eng.



Warsaw, 11.08.2020

DEPUTY DIRECTOR
of Instytut Techniki Budowlanej



Anna Panek, M.Sc. Eng.

MANAGEMENT SYSTEM CERTIFICATE

Certificate no.:
256597-2018-AQ-POL-RvA

Initial certification date:
29 February 2000

Valid:
01 March 2021 – 29 February 2024

This is to certify that the management system of

VALMONT Polska Sp. z o.o.

ul. Majora Henryka Sucharskiego 6, 08-110 Siedlce Poland

has been found to conform to the Quality Management System standard:

ISO 9001:2015

This certificate is valid for the following scope:

Design, manufacture and sale of steel lighting poles, traffic signal poles, tramway poles, utility poles and high masts. Sale of telecommunication masts and towers and aluminum lighting poles.

Place and date:
Gdynia, 19 February 2021

For the issuing office:
DNV GL – Business Assurance
ul. Łużycka 6e, 81-537 Gdynia, Poland



Tomasz Słupek
Management Representative

CERTYFIKAT

D-ZE-16083-01-00-ISO3834-2015.0254.002

DVS ZERT potwierdza niniejszym, że firma



VALMONT Polska Sp. z o.o.
ul. Terespolska 12
08-110 Siedlce
Polska

Spełnia wymagania jakości według:

EN ISO 3834-2:2005

w zakresie podanym na odwrocie.

Okres ważności: 17.08.2018 do 16.08.2021

certyfikowana od: 2015

Düsseldorf, 17.08.2018
Miejsce i data wystawienia

Dipl.-Ing. Kolodziej
Audytor wiodący

A handwritten signature in blue ink, appearing to read 'Gurschke', is written over a horizontal line.

Dipl.-Ing. Gurschke
Kierownik jednostki certyfikującej

Zakres obowiązywania certyfikatu:

D-ZE-16083-01-00-ISO3834-2015.0254.002

Zastosowanie:	stalowe słupy oświetleniowe, słupy sygnalizacyjne; słupy tramwajowe, słupy energetyczne oraz wysokie maszty
Metody spawania:	111, 121, 135, 15 według EN ISO 4063
Materiały podstawowe:	1.1, 1.2, 2.1 według CEN ISO/ TR 15608
Osoba odpowiedzialna za nadzór spawalniczy:	
Nazwisko, imię:	Góra, Artur
Data urodzenia:	31.07.1978
Kwalifikacje:	IWE / International Welding Engineer
Zastępca osoby odpowiedzialnej za nadzór spawalniczy:	
Nazwisko, imię:	---
Data urodzenia:	---
Kwalifikacje:	---
Uwagi:	Niniejszy certyfikat nie zastępuje certyfikatów wymaganych w obszarach uregulowanych prawem.



**INSTYTUT TECHNIKI BUDOWLANEJ
CERTIFICATION DEPARTMENT**

ul. FILTROWA 1, 00-611 WARSAW, POLAND
tel.: + 48 (22) 57 96 167, + 48 (22) 57 96 168, fax: + 48 (22) 57 96 295
e-mail: certyfikacja@itb.pl, www.itb.pl

CERTIFICATION MARK

The company:

VALMONT Polska Sp. z o.o.
ul. Majora Henryka Sucharskiego 6
08-110 Siedlce
Poland

being the manufacturer of the products:

Steel lighting columns type:

100 HE C S SE SD 1, 70 HE C S SE SD 0, 50 HE C S SE SD 0,
100 NE B S SE SD 0, 70 NE B S SE SD 0, 50 NE B S SE SD 0

is authorized to use
the ITB certification mark „WYRÓB BUDOWLANY”
during the period of validity of the certificate no. 1488-CPR-0609/W



1488-CPR-0609/W

HEAD
of the Certification Department

Katarzyna Hatowska, M.Sc. Eng.



DEPUTY DIRECTOR
of Instytut Techniki Budowlanej

Anna Panek, M.Sc. Eng.

Warsaw, 11.08.2020



**NOTIFIED BODY No. 1488
INSTYTUT TECHNIKI BUDOWLANEJ
CERTIFICATION DEPARTMENT**

ul. FILTROWA 1, 00-611 WARSZAWA
ph.: +48 (22) 57 96 167, +48 (22) 57 96 168, fax: +48 (22) 57 96 295
e-mail: certyfikacja@itb.pl, www.itb.pl



**CERTIFICATE OF CONSTANCY OF PERFORMANCE
1488-CPR-0609/W**

In compliance with Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR), this certificate applies to the construction product

Steel lighting columns type:

**100 HE C S SE SD 1, 70 HE C S SE SD 0, 50 HE C S SE SD 0,
100 NE B S SE SD 0, 70 NE B S SE SD 0, 50 NE B S SE SD 0**

- without brackets for mounting luminaires
- with single-arm brackets for mounting luminaires
- with multi-arm brackets for mounting luminaires

classified for passive safety

Identification, use and essential characteristics and performances of the product are described in the Annex No. 1488-CPR-0609/W which is an integral part of this certificate;

placed on the market under the name or trade mark of:

**VALMONT Polska Sp. z o.o.
ul. Majora Henryka Sucharskiego 6
08-110 Siedlce
Poland**

and produced in the manufacturing plant:

**VALMONT Polska Sp. z o.o.
ul. Terespolska 12
08-110 Siedlce
Poland**

This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in Annex ZA of the standard:

EN 40-5:2002

under system 1 for the performance set out in this certificate are applied and that the factory production control conducted by the manufacturer is assessed to ensure the constancy of performance of the construction product.

This certificate was first issued on 30.05.2017 (updated on 27.11.2019, 06.12.2019, 18.06.2020, 11.08.2020) and will remain valid as long as neither the harmonised standard, the construction product, the AVCP methods, nor the manufacturing conditions in the plant are modified significantly, unless suspended or withdrawn by the notified product certification body.

HEAD
of the Certification Department

Katarzyna Hatowska, M.Sc. Eng.



DEPUTY DIRECTOR
of Instytut Techniki Budowlanej

Anna Panek, M.Sc. Eng.

Warsaw, 11.08.2020

Annex No. Z-1488-CPR-0609/W, page 1/1
which is an integral part of the certificate No. 1488-CPR-0609/W

Product identification

Types of lighting columns, essential characteristics, performances of the product and product use						
	1	2	3	4	5	6
Types of lighting columns	100 HE C S SE SD 1 5	70 HE C S SE SD 0 5	50 HE C S SE SD 0 6	100 NE B S SE SD 0 3	70 NE B S SE SD 0 3	50 NE B S SE SD 0 3
	100 HE C S SE SD 1 6	70 HE C S SE SD 0 6	50 HE C S SE SD 0 7	100 NE B S SE SD 0 4	70 NE B S SE SD 0 4	50 NE B S SE SD 0 4
	100 HE C S SE SD 1 7	70 HE C S SE SD 0 7	50 HE C S SE SD 0 8	100 NE B S SE SD 0 5	70 NE B S SE SD 0 5	50 NE B S SE SD 0 5
	100 HE C S SE SD 1 8	70 HE C S SE SD 0 8	50 HE C S SE SD 0 9	100 NE B S SE SD 0 6	70 NE B S SE SD 0 6	50 NE B S SE SD 0 6
	100 HE C S SE SD 1 9	70 HE C S SE SD 0 9	50 HE C S SE SD 0 10	100 NE B S SE SD 0 7	70 NE B S SE SD 0 7	50 NE B S SE SD 0 7
	100 HE C S SE SD 1 10	70 HE C S SE SD 0 10	50 HE C S SE SD 0 11	100 NE B S SE SD 0 8	70 NE B S SE SD 0 8	50 NE B S SE SD 0 8
			50 HE C S SE SD 0 12	100 NE B S SE SD 0 9	70 NE B S SE SD 0 9	50 NE B S SE SD 0 9
				100 NE B S SE SD 0 10	70 NE B S SE SD 0 10	50 NE B S SE SD 0 10
				100 NE B S SE SD 0 11	70 NE B S SE SD 0 11	50 NE B S SE SD 0 11
				100 NE B S SE SD 0 12	70 NE B S SE SD 0 12	50 NE B S SE SD 0 12
Properties at a vehicle impact (passive safety) according to EN 12767:2019	100 HE C S SE SD 1	70 HE C S SE SD 0	50 HE C S SE SD 0	100 NE B S SE SD 0	70 NE B S SE SD 0	50 NE B S SE SD 0
Durability	Protection against corrosion by hot dip galvanizing according to EN ISO 1461: 2009					
Strength on horizontal load	The lighting columns are resistant on the loads calculated in accordance with the requirements of EN 40-3-1: 2013 and EN 40-3-3: 2013					
Intended use	Road lighting for traffic areas					

Column No.1 – steel lighting columns of circular cross-section and a conical shape with no brackets, columns height of 5 m to 10 m; with a brackets, columns height of 6 m to 12 m for mounting luminaires

Column No.2 – steel lighting columns of circular cross-section and a conical shape with no brackets, columns height of 5 m to 10 m; with a brackets, columns height of 6 m to 12 m for mounting luminaires

Column No.3 – steel lighting columns of circular cross-section and a conical shape with no brackets, columns height of 6 m to 12 m; with a brackets, columns height of 6 m to 12 m for mounting luminaires

Column No.4 – steel lighting columns of circular cross-section and a conical shape with no brackets, columns height of 3 m to 12 m; with a brackets, columns height of 4 m to 13 m for mounting luminaires

Column No.5 – steel lighting columns of circular cross-section and a conical shape with no brackets, columns height of 3 m to 12 m; with a brackets, columns height of 4 m to 13 m for mounting luminaires

Column No.6 – steel lighting columns of circular cross-section and a conical shape with no brackets, columns height of 3 m to 12 m; with a brackets, columns height of 4 m to 13 m for mounting luminaires

The stems of columns (Col.1-Col.2) are made of S235JR+N (sheet thickness 2,2 mm), the basis of the columns are made of S355J steel. The basis of the columns are fixed with M24 anchors to the prefabricated foundations according to the manufacturer's instructions.

The stems of column (Col.3) are made of S235JR+N (sheet thickness 2,2 mm), the basis of the columns are made of S420MC steel. The basis of the columns are fixed with M24 anchors to the prefabricated foundations according to the manufacturer's instructions.

The stems of columns (Col.4-Col.6) are made of S235JRG2 (sheet thickness 2,5 mm), the basis of the columns are made of S420MC steel. The basis of the columns are fixed with M24 anchors to the prefabricated foundations according to the manufacturer's instructions.

HEAD
of the Certification Department



Katarzyna Hatowska, M.Sc. Eng.



DEPUTY DIRECTOR
of Instytut Techniki Budowlanej



Anna Panek, M.Sc. Eng.

Warsaw, 11.08.2020

LIGHT POLES

INSTALLATION GUIDE

1. General

VALMONT Poland's effort is to produce light poles that would not only comply with the quality requirements defined in the EN 40 standard and national approvals, but also meet expectations of our Customers.

We want our products to keep all their operational and quality characteristics from the moment they leave our company warehouse until they are erected in their target destination. To ensure that, we have prepared these Guidelines that contain our recommendations with regards to the proper transportation, unloading, storage and assembly of the poles, avoiding any damage and maintaining their high durability.

The following factors have to be especially accounted for:

- the spelter layer is 0.07 mm thick and may easily suffer mechanical damage
- parts have a limited rigidity and once they are overloaded or hit, they may be permanently deformed,
- some elements have to be provided in bulk (plugs, tap bolts, lids, eyes, spokes), which means they may get lost.

VALMONT Poland reserves the right to reject any claims with regards to the quality or completeness of the delivery if the instructions provided herein are ignored.

2. Transportation

2.1 Preparing products for delivery

Each batch of poles is carefully prepared for despatch by VALMONT Poland: they are properly stacked to ensure minimal cubic capacity of the load, special wooden spacers are used in contact spots and they are all clipped with a steel banding tape.

Each pole produced by VALMONT Poland is permanently marked with identification data. It is applied with a digital stamp on the bar inside the post and on the inner side of the handhole. Both stamps are the same to ensure the proper assembly of matching handholes and poles. Please state the number when filing any potential claims or complaints.

Note:

For technological reasons handholes are not considered to be spare parts. They may not be interchanged between the poles during assembly.

2.2 Choosing the means of transport.

Once the posts are prepared and packed as above, they should be put on a transportation vehicle with the load bed length exceeding the maximum length of the poles by at least 0.5 m. The load bed should have wooden floor and sides. The surface of the bed should be clean and clear of any sharp metal elements. Preferably the vehicle should be also equipped with additional spacers to ensure that packed poles do not brush against each other (e.g. short wooden boards, rags, carton etc.)

The vehicle has to have special load straps to fix the load stable during the ride.

As a matter of exception it is possible also to use a transport vehicle with a semitrailer. If that is the case, it is essential to provide additional elements protecting the load from the direct contact with metal parts and to prevent it from moving.

It is advisable to place the posts in maximum 4 layers of packs in an open load bed, and in maximum 5 layers in a bed load with a tarped closed box. Above restrictions have to be considered when planning the number of vehicles to transport the entire delivery.

2.3 Loading

The representative of the Customer (the driver or the escort driver) receiving the goods shall verify on the ongoing basis if the type and number of products comply with the delivery note and shall oversee the entire loading procedure. Upon signing the copy of the delivery note the representative also confirms that the load is complete as to the type and volume.

Note:

Should the driver or the escort driver notice any serious damage of loaded goods, they may refuse to receive the load or make a written note about it on the delivery slip.

The driver is responsible for the way the goods are loaded, arranged and secured during the transportation. Batches of goods are loaded by VALMONT Poland employees as per driver's instruction using an overhead crane or a side loader forklift.

2.4 Transport

Once the goods are loaded at VALMONT Poland in Siedlce they travel to their destination under the supervision and at the risk of the haulier.

2.5 Unloading at destination

The delivered goods are unloaded at their destination once the Customer has verified that the delivery is complete.

The goods should be unloaded with proper unloading equipment (overhead crane, a crane, a mobile crane etc.) using only flexible or hemp load straps.

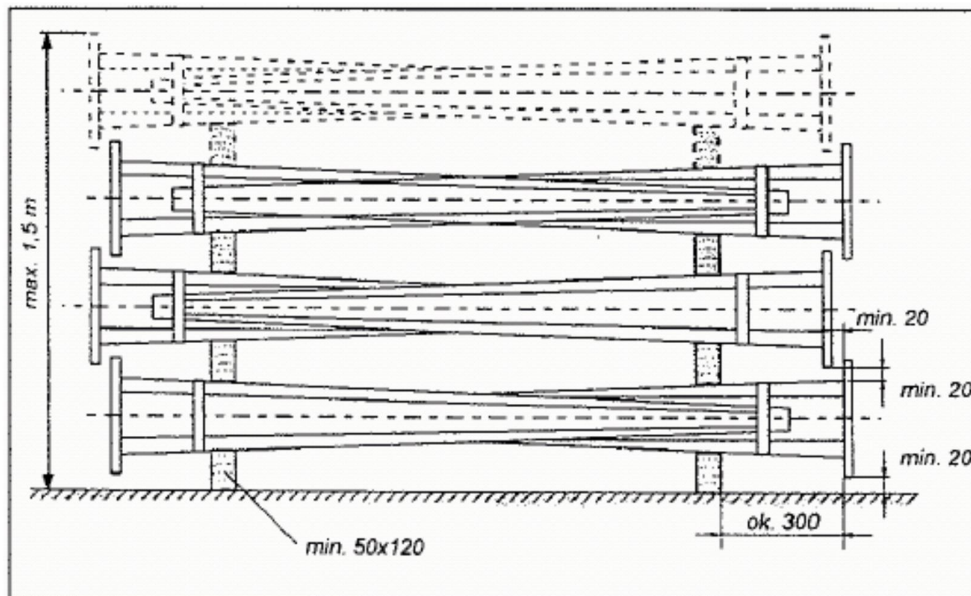
Because the elements are extra long, they should be handled with a tow rope.

The load may not be excessively rocked, hit against any bypassed obstacles, brushed against any hard objects and held far from its centre of gravity.

In case the products have to be temporarily stored before the mounting, you should:

- prepare the storage facility so that it is clean, smooth, level and free from any excess moist,
- place properly sized wooden panels on the floor, so that the products do not come into contact with the surface of the ground,
- secure the storage facility against any accidental displacement of stacked products, against any damage and excessive impact of weather conditions.

The posts may be stacked in up to 6 layers of packs, however up to 1,5 m high only. Individual layers shall be interleaved with wooden spacers with a 50x120 mm section, so that pole baseplates do not touch with layered poles.



Poles have to be stacked very carefully so that they do not hit or brush against each other.

3. Mounting the poles

3.1 Pre-assembly

The light poles are usually mounted together with brackets and electrical fittings (fuse box, lamp casing, wiring system, etc.) Any preparatory works and mounting instructions for electrical works are not the subject of these guidelines.

Generally before the poles are assembled and anchored, a foundation with anchor bolts and conduit canals should be prepared.

3.1.1 Preparing the foundation

For each type of pole from the VALMONT Poland product catalogue minimum foundation dimensions are indicated. They were defined for Polish weather conditions and for expected approved pole loads. Any departure from the data recommended in the catalogue for the dimensions and weight of foundations is subject to the approval of an authorised design engineer.

Generally there are two possible solutions for embedding poles applied:

- pre-fabricated foundation embedded in the ground;
- using a foundation individually poured into the ground.

Once the pre-fabricated foundations have been secured against moist, they are placed with a crane in the prepared bed larger on each side by approx. 10 cm from the crosswise dimensions. Then you need to check if the axis of the foundation is aligned with the poles and verify its vertical position (level of the upper surface), then the bed is filled with gravel or ground in approx. 15 cm layers tamped with a rammer.

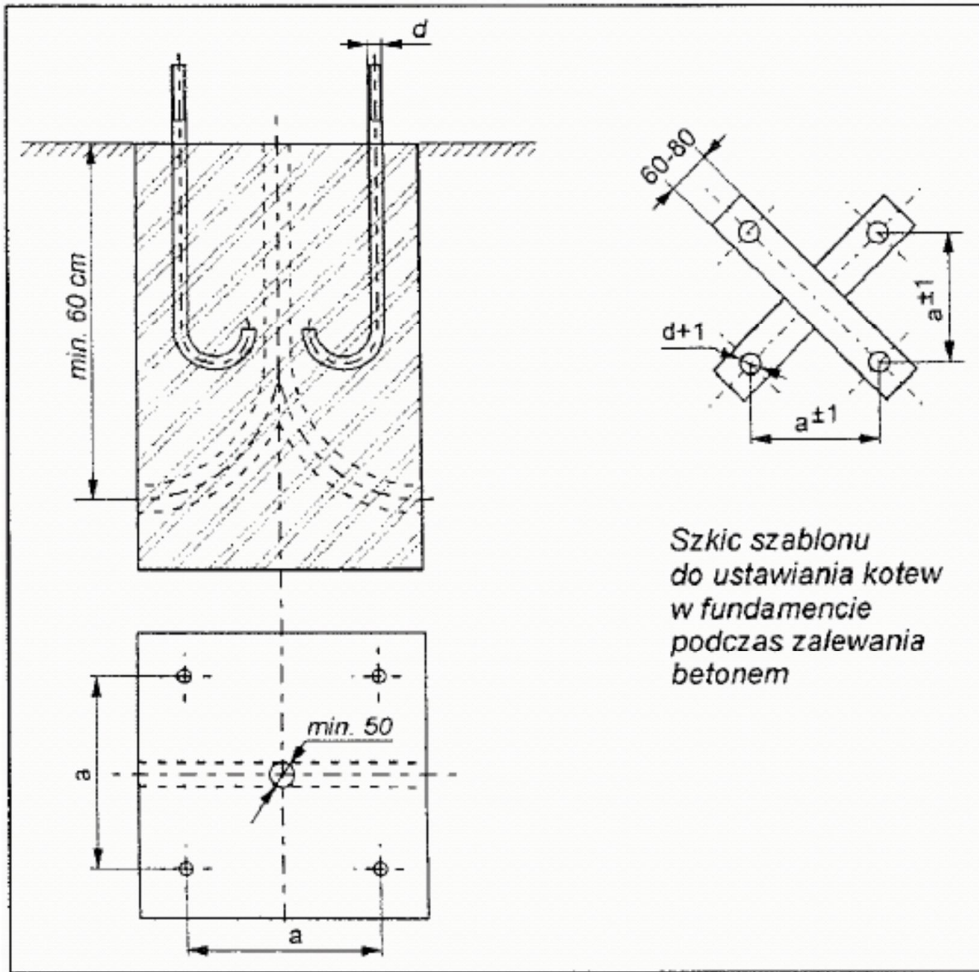
Individually mounted foundations have to be designed by a certified design engineer. They are mounted as per documentation.

The anchors should protrude above the upper surface of the foundation at least by the length equal to the length of the thread. It is approximately $4d$ long, whereby d =anchor thread diameter.

In order to help ensure proper alignment of anchors, a simple template should be made from 3-4 mm thick steel stripes as per draft below.

The protruding anchor parts should be covered with an anti-rust product after they were embedded in concrete.

The template draft for arranging anchors in the foundation for embedding in concrete.



Inside of the foundation should account for the conduit. The conduit canals are made by properly moulding ribbed PVC pipes 60 mm in diameter and priming them with concrete.

The poles designed for concrete priming (without the baseplate) have cable slots opposite one another in the bottom part, measuring 50x150 mm. Before such poles are primed in concrete they have to be treated with an anti-rust protection in the primed section of the pole, using e.g. a bituminous mass.

It is also necessary to ensure enough room around the foundation for the crane to approach and park, for the pole and brackets to be properly aligned and pre-assembled.

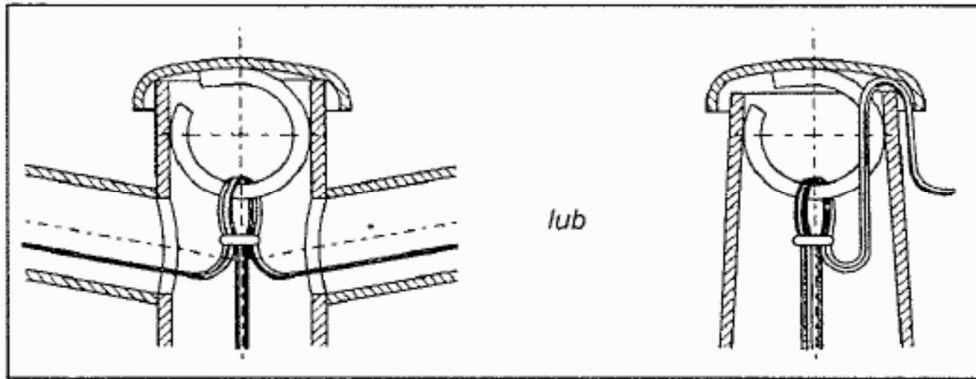
3.1.2 Pre-assembling the pole

The pole together with the brackets, crown or crossbars and the luminaire with the light should be delivered to the foundation that has been prepared and has proper endurance. Before embedding them in the foundation they all need to be pre-assembled.

From the practical point of view it is advisable to perform parallel mechanical and electrical pre-mounting. Therefore e.g. when assembling brackets or crossbars it is good to also lay (lead) conduit for the lamps, which facilitates the whole procedure.

There are certain types of brackets, crowns and finials that are mounted with crossbars closed with a cap with an eye.

or

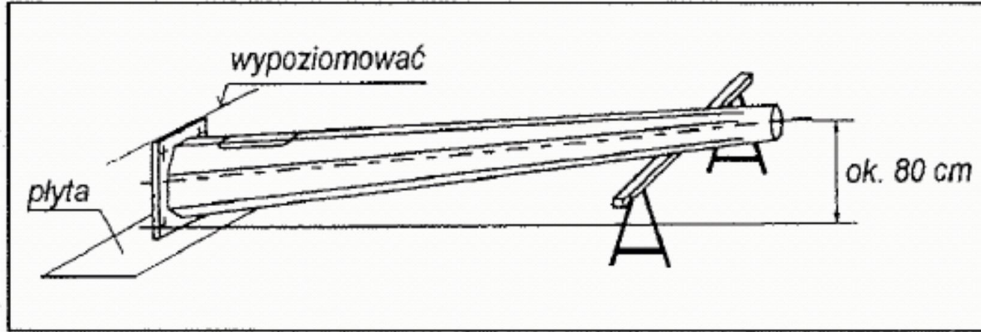


The eye has a double role here. It is a hanger for cables which for that reason should have a properly formed loop, and because the eye is flexible it also protects the cap against falling off.

Depending on the type and the size of the pole and the brackets (crown or crossbar), the assembly should proceed as follows:

a) single segment poles

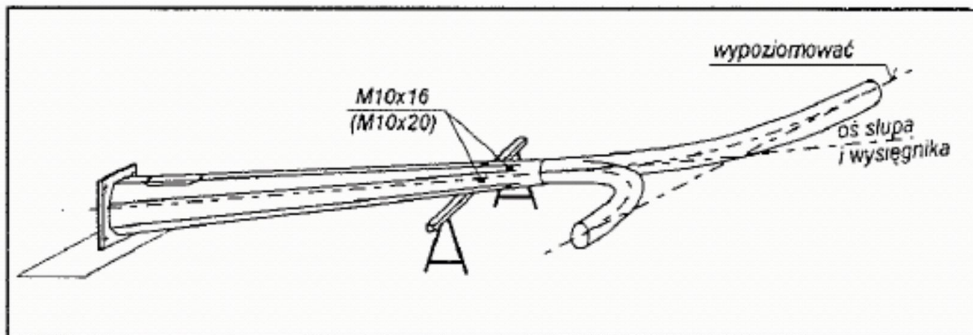
- place the pole as in the drawing



wypoziomować	level
plyta	plate

- place feeder cables for the lamp over the centre of the arms,
- slide the grip of the bracket (crown) into the slot at the end of the pole and angle properly against the handhole, e.g.:

wypoziomować	level
plyta	plate



Note:

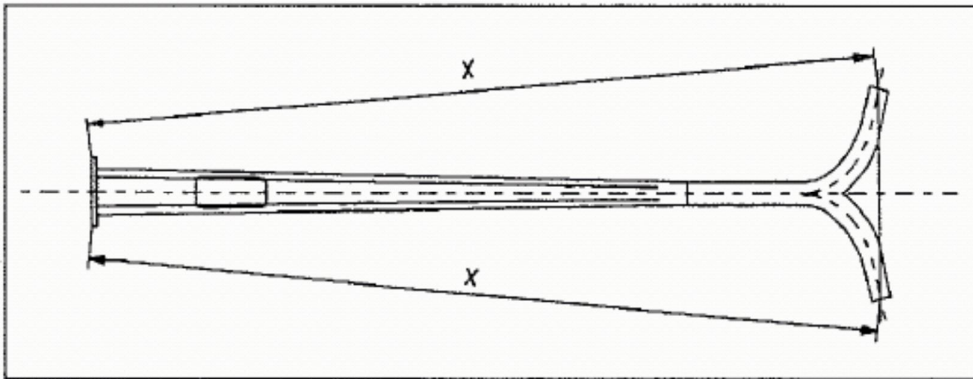
pre-assembly of composite brackets has been covered in section 4

- use a level and 8 M10 screws with a hex key 5 to align the axis of the bracket in axis with the pole and to align the arms (e.g. vertically) by tightening the screws.

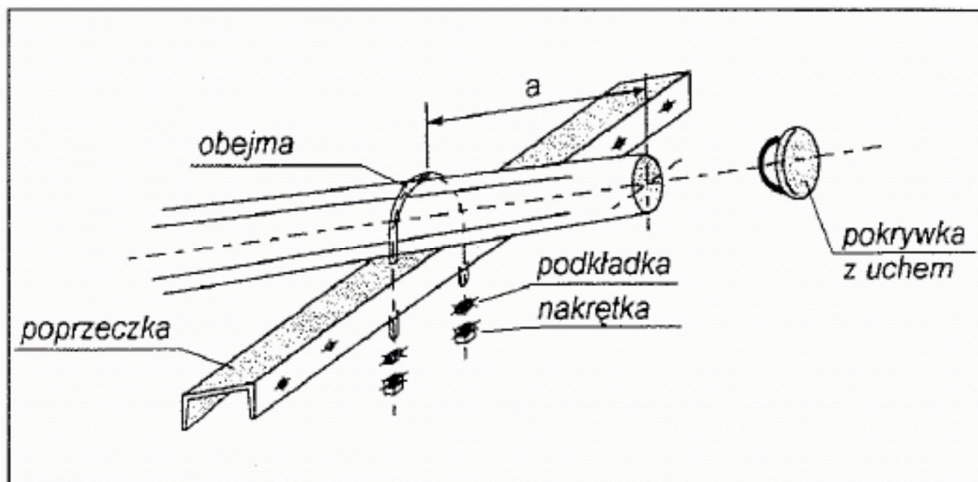
Note:

since the thread in the housing of the pole is not very long, the screws have to be tightened very sensitively - they have to be tightened well enough so that the bracket does not move, but not overtightened so that the thread does not break.

- check "x" dimension from the base to the end of the bracket (applies to multi-arm brackets), adjust if necessary. Admissible difference in the "x" dimension is ± 25 mm.



- when assembling the crossbar you need to first place a clamping ring in anchor slots, then place washers and tighten the nuts, then place the properly angled pole cap. Once it is properly distanced from the end of the pole ("a" dimension), tighten with the hex key.



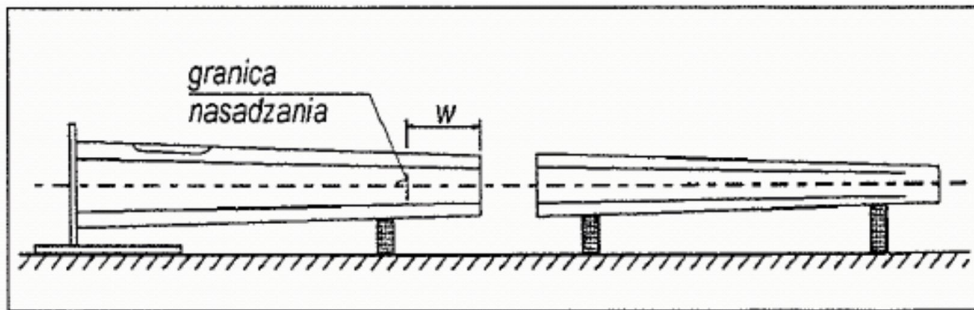
obejma	clamping ring
poprzeczka	crossbar
podkładka	washer
nakrętka	nut
pokrywka z uchem	cap with eye

Next transfer and lead the conduit, and put the cap on.

- arrange and screw the luminaire, connect to a power source and insert the light (bulbs).

b) two-segment poles

- align pole segments vertically on the ground on the axis. The upper segment should be aligned against the bottom segment so that the edges with the lengthwise joint overlap once assembled.

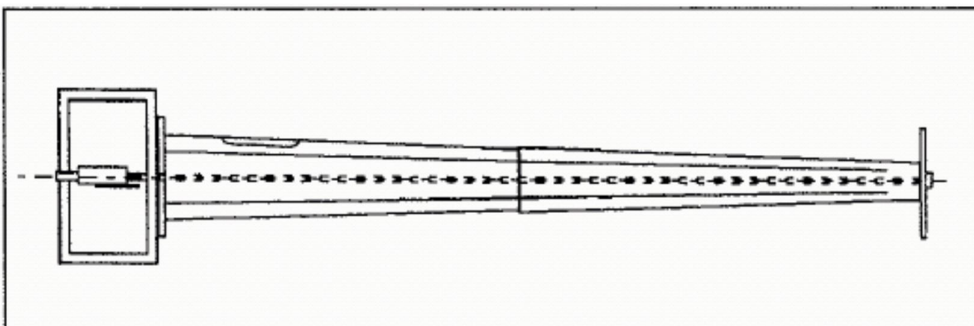


granica nasadzania	anchorage level
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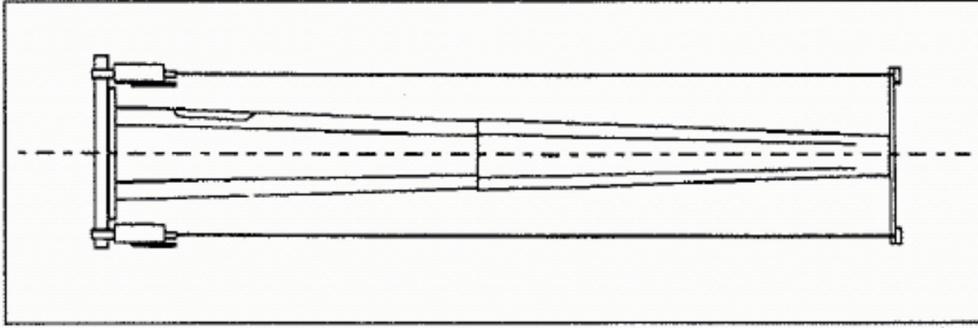
- mark the anchorage level on the lower section for the upper part. The "w" distance is calculated based on the difference between the sum of the length of both sections and the final height of the pole (which is usually 500 mm),
- slide the upper section onto the bottom section until they lightly tighten,
- force the upper section into the bottom section using the towing equipment on hand (e.g. winch with jaw cleat). You may also pull a steel rope with the relevant capacity through the centre of the pole and then use the winch.

Note:

The longitudinal force when pressing the upper section of the pole should be approx. 1.5 of the total weight of the pole.



Two hoisting winches placed outside (on both sides) may be also used here.



- check if the connections are rigid and confirm the total height of the pole, demount the pressing fittings,
- follow with the pre-assembly as per single-segment poles procedure.

3.1.3 Erecting the pole

Before you anchor the pole in the foundation, you need to prepare:

- nuts and anchoring washers ,
- keys
- adjustment washers for aligning the pole,

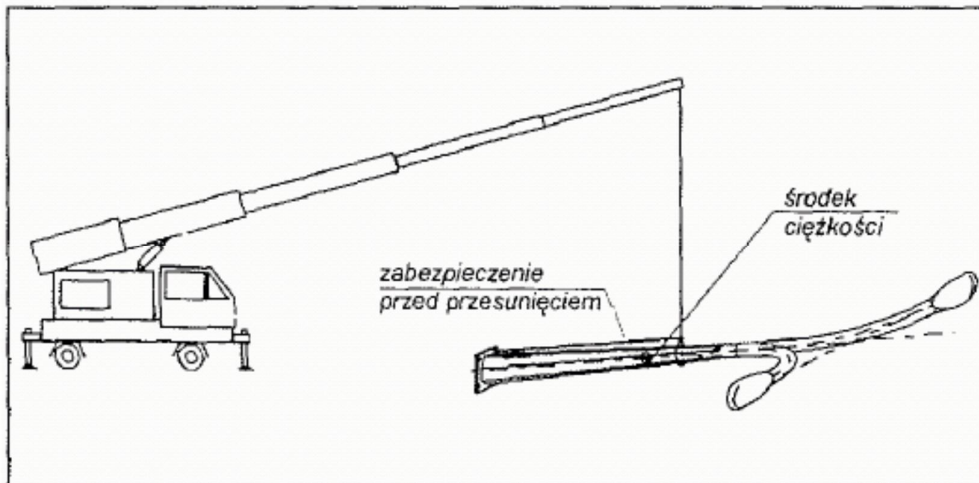
Note:

to align the pole you may like to use square taper washers from straps of steel sheets sized 40x100 and 4.6 or 8 mm thick, grounded and tapered from one side.

- securing washers (e.g. wooden blocks approx. 30 cm high)
- level and a surveyor's level.

Grab the pre-assembled pole with luminaires and cables in place with a flexible or hemp strap a little above the centre of gravity, securing it against sliding.

Carefully (not to overload) and slowly start lifting the pole until it is almost vertical so that the baseplate is approx. 30 cm above the ground and then move it over the foundation. Place securing washers under the baseplate (e.g. wooden blocks) and carefully lead the conduit protruding from the foundation from underneath through the slots in the baseplate. Remove the securing washers, align the anchor slots with the anchor bolt axes and start to slowly descend the pole until it leans against the foundation. Immediately put the washers on and tighten the nuts. Check the vertical pre-alignment of the pole (visually). Correct the alignment by releasing relevant nuts and placing adjustment washers, if necessary. You may now release the line and disconnected from the pole.



środek ciężkości	centre of gravity
zabezpieczenie przed przesunięciem	secure against sliding

You may now start to align the pole exactly in the vertical position. To do so, you need to check the position using a level or a surveyor's level and adjust it by pushing the adjustment washers up and releasing or tightening the mounting nuts as needed. The measurements are performed in two perpendicular planes running through the axis of the pole. Once the plumb line is set, you need to tighten all mounting nuts and then check the plumb line again. Adjust if necessary.

In order not to compromise the load capacity of the pole, the axis should not deviate by more than half of its draft angle. However in order not to compromise the looks, the admissible deviation from the plumb line is significantly narrowed and it is suggested that it should not exceed half the diameter of the pole at its peak (e.g. at the joint between the pole and the bracket).

4. Mounting composite brackets

Larger multi-arm brackets have to be galvanized and so for technological reasons they are delivered as composite elements. Their design accounts for proper joints in places of their division.

Brackets come in packs and we send them to our Customers disassembled, so that the cubic capacity of the load is smaller and the transport is easier.

They can be easily assembled at destination according to the following procedure:

- open the packs with brackets and arms,
- assemble arms with individual brackets,

Note:

arms in the given delivery batch are marked by their joints with unique numbers or characters. You have to always match them with relevant bracket endings.

- place arms one by one on the protruding ends of bracket joints and tighten them with two M10x20 screws delivered in bulk.

5. Mounting crowns

Mounting crowns (round or hexagonal) requires the same scope and sequence of actions as in case of multi-arm brackets. You need to pay special attention to:

- carefully mount and angle the luminaires,
- avoid asymmetrical alignment of luminaires against the pole axis,
- properly lay the conduit between the pole shaft and its housing (always account for the proper overhang of the cable, so that the dripping water does not get inside, you should protect it against sitting birds and rocking by the wind).

6. Final remarks

6.1 The anchored pole should be protected in its bottom section with an anti-rust colour up to approx. 30 cm in order to contain aggressive impact of de-icers. The surface of the protruding thread of anchoring bolts should be treated with either anti-rust colour or grease (also you may consider putting on plastic caps).

6.2 The upper surface of the foundation should be placed a little above the ground and should have an outlet for collected rainwater.

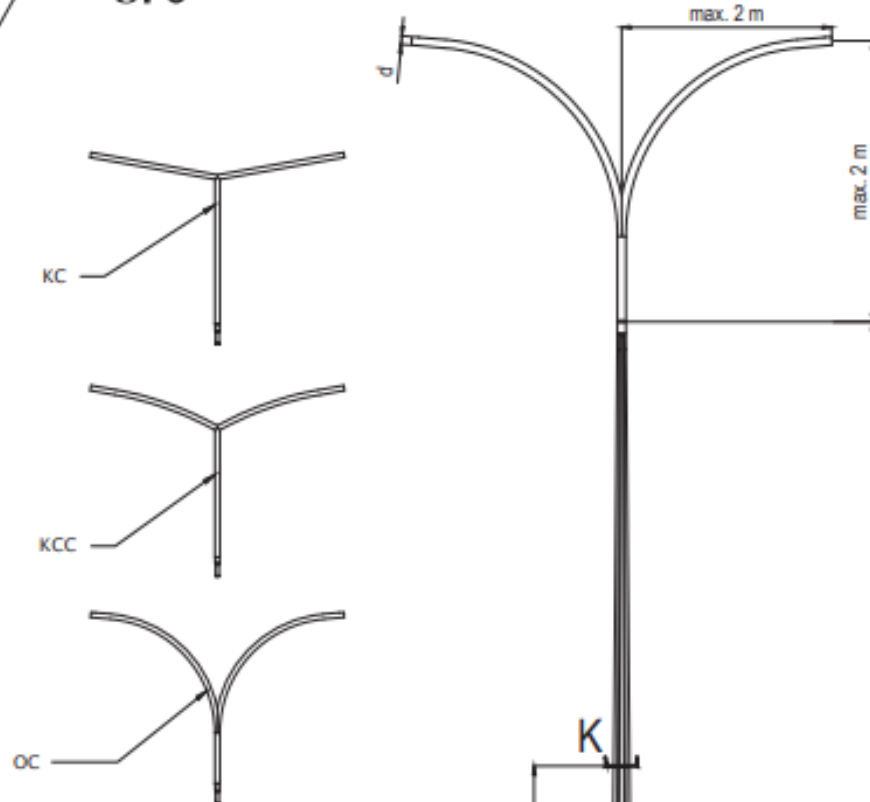
6.3 You should also leave a gap between the upper surface of the foundation and the bottom surface of the baseplate to allow inside ventilation of the pole and evaporation of contained moist.

6.4 Once the delivered poles are unpacked, you may notice darker spots appearing where they touched wooden spacers. There may be also larger dark areas on the galvanized surface from iron-zinc. These are not grave galvanizing defects and they usually wear off with time, when the zinc coating starts to go grey. These are not grounds for any claims or complaint with regards to the galvanizing, as they are admitted pursuant to the DIN 50976 standard.

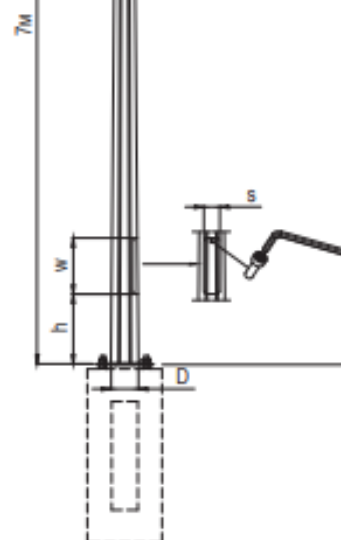
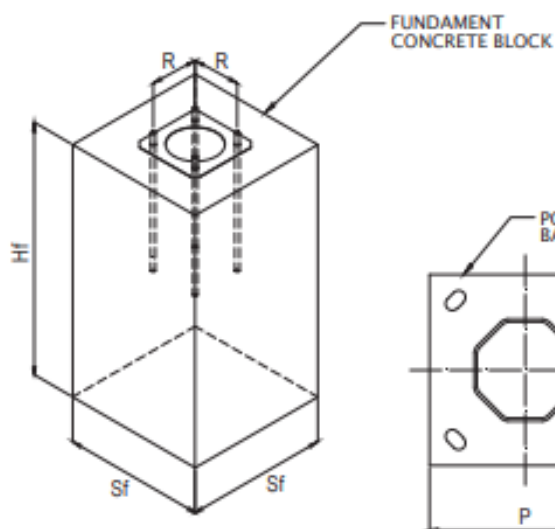
We believe that these Installation Guidelines for the poles we manufacture will help you assemble and anchor them. VALMONT Poland hopes you will be happy with our products and is looking forward to our future friendly and fruitful cooperation.
--

VALSK P 333

370



TYPY WYSIĘGNIKÓW
BRACKET TYPES



VALSK P 333 / 370

Materiał / Description

Stal ocynkowana (zgodnie z normą EN ISO 1461)

Galvanized steel (according to EN ISO 1461)

Wykończenie / Finishing

Malowanie proszkowe lub hydrodynamiczne na dowolny kolor z palety RAL lub AKZO

Powder coat as well as hydrodynamic painting on every color from RAL or AKZO palette

Stalowe ośmiokątne słupy kablowe zaprojektowane są jako słupy przejściowe, krańcowe i kątowe z wysięgnikami do 2 metrów wysokości i wysięgiem do 2 metrów. Podwieszenie kabla na 7 metrach od powierzchni gruntu.

Przyłożenie siły na wysokości większej niż 7 metrów wymaga dodatkowych obliczeń wytrzymałościowych. Maksymalne wartości przyjęte do obliczeń: wymiary kabla 4x35, odległość między słupami do 40m, kąt nie większy niż 90 stopni. Przekroczenie podanych parametrów wymaga dodatkowych obliczeń wytrzymałościowych.

Podane parametry fundamentów są przyjęte dla średnich warunków gruntu. Dla konkretnego zapytania należy przygotować indywidualny projekt fundamentu.

Octagonal, steel lighting and cable poles (designed as suspension, angle and dead end poles) with bracket up to 2 metres height and up to 2 metres outreach.

Cable installation (force load) on 7 metres required.

Force load installation on different height available after preparing customized strenght calculations. Maximum values taken into the strength calculations: cable dimensions 4x35, distance between poles till 40m, angle no greater than 90 degrees. Exceeding these parameters require additional strength calculations.

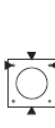
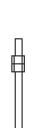
Concrete block dimensions calculated for avarage ground characteristic.

Different ground specification required customized concrete block design.

Tabela z wynikami obciążeń / Maximum loading

				K				M	T
				I, III strefa < 300 m n.p.m.	I, III strefa 300 - 450 m n.p.m.	II strefa 450 - 600 m n.p.m.	I,III strefa 600 - 900 m n.p.m.		
	[m]	[kg]	[m2]	[daN]	[daN]	[daN]	[daN]	[daNm]	[daN]
VALSK P 333	7	*15	0,15	1040	1020	980	920	6898	1139
	8			1030	1010	950	870	7454	1198
	9			980	960	880	790	8078	1259
	10			940	900	820	700	8211	1276
	11			880	830	730	610	8215	1242
	12			820	740	650	500	8207	1193
VALSK P 370	7	*15	0,15	1100	1080	1030	970	9351	1506
	8			1070	1040	980	900	9795	1555
	9			1020	1000	930	820	9795	1559
	10			970	930	860	730	9801	1503
	11			910	850	770	630	9793	1455
	12			850	780	690	520	9795	1432

Tabela z geometrią słupa / Pole dimensions

								
	[m]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[m]
VALSK P 333	7	103	333	600	145	500	540 / 400	M33 x 1700 1,1 x 2,1
	8							
	9							
	10							
	11							
	12							
VALSK P 370	7	103	370	600	145	500	540 / 400	M33 x 1700 1,6 x 1,7
	8							
	9							
	10							
	11							
	12							

