



ASSEMBLY INSTRUCTIONS

Cantilever rack

KR2500



Please read this manual before using the product and follow the instructions it contains!

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WARNING: TOPREGAL US Corp. advises that this product should be assembled exclusively by trained professionals who have experience with installing storage rack systems and are fully familiar with all applicable safety regulations and procedures. These instructions are intended solely for use by qualified personnel equipped with appropriate safety gear.



DANGER: KR2500 Cantilever racks have a very high weight. If they are not adequately secured during installation or assembly, they may tip over, which can result in serious injury or fatal accidents and cause property damage.

Contact TOPREGAL US Corp. to obtain the name and contact details of a qualified installation professional. Anyone using this information agrees to release, indemnify, and hold TOPREGAL US Corp. harmless from any liability whatsoever.



WARNING: Assembly instructions are provided on the following pages. Correct installation is the sole responsibility of the purchaser and is not covered by the seller's warranty. The buyer is advised not to replace or alter any parts or fastening hardware. The seller assumes no responsibility for the use of components or hardware substitutions unless such changes have been expressly approved in writing.

The installation drawings included are intended to serve as general reference guides for assembling standard components. Depending on the specific system requirements, there may be restrictions on the use of these standard components and / or the need for special installation methods. Further details can be found on topregal.us in published technical documentation, detailed assembly instructions and drawings, and other related materials.



CAUTION: Before assembling the cantilever rack, check the component parts. Ensure that all components have been delivered in full. Compare the received items with the packing lists and the bill of lading to confirm completeness. Report any missing items or damaged goods to the carrier without delay.



CAUTION: Examine the site of installation. Prepare the installation site by removing any unnecessary items and clearing the space where the racking system will be installed. Examine the site for potential obstacles—such as lighting fixtures, HVAC ducts, piping, or structural columns—to make sure there is sufficient clearance for proper rack installation.



WARNING: The employer/operator is responsible for ensuring compliance with all applicable federal, state, and local safety regulations, including OSHA requirements.

OVERVIEW

UPRIGHT

A complete upright consists of a upright profile, a welded-on foot part and 5 welded-on cantilevers.

A rack upright has a height of 78.74".

Cross and diagonal struts connect the individual uprights. The distance between two uprights is called the axial dimension.

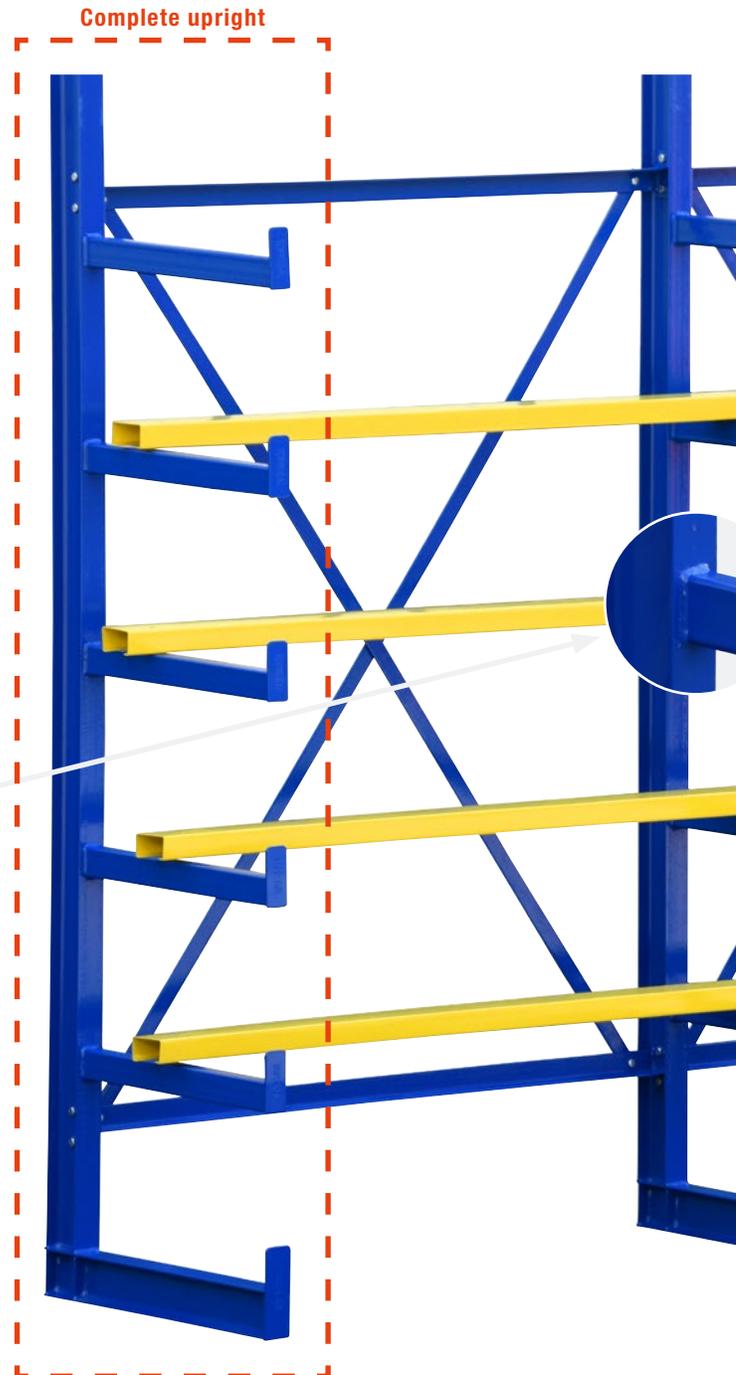
CANTILEVERS

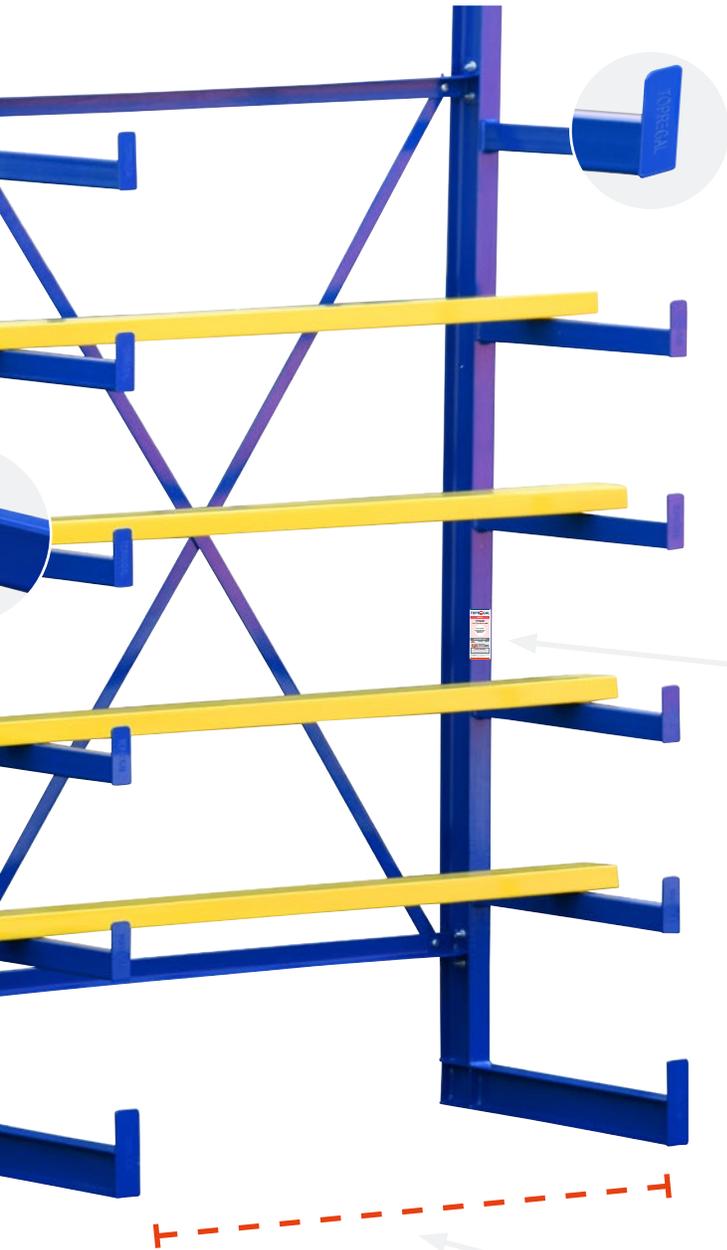
Cantilevers serve as load carriers and are firmly welded to the upright.

Our cantilevers have a length of 19.69".

The distance in height between the cantilevers is 11.02" each.

Max. load per cantilever = 551.15 lbs.





ROLL-OFF SAFETY DEVICE

To protect the load from accidental falling, a roll-off safety device is welded to the end of the cantilever.

The safety device on the cantilevers is 1.97" high, on the foot part it is 2.76".

LOAD CAPACITY LABEL

Self-adhesive load capacity label displaying load capacities.

Always supplied and must be attached to the rack in a clearly visible position.



UNIT WIDTH

The unit width is determined by the distance between two uprights.

Our standard unit width is 47.24".

Units can be added to increase the length as often as desired.



Before assembling or using your cantilever rack system, always read these instructions very carefully.

SAFETY INFORMATION



PREVENT DANGERS

The TOPREGAL product you have purchased is manufactured in accordance with the current state of the art and complies with the applicable regulations and rules. Nevertheless, it may pose a danger to people and property if:

- the rack is not properly assembled, improperly modified or converted.
- accessories used are not original ones.
- the safety regulations are not observed.

Therefore, every person involved in the assembly must read and follow the safety regulations and, if necessary, you should have this confirmed by a signature.



ACCIDENT PREVENTION REGULATIONS

All relevant accident prevention regulations apply:

- Generally accepted safety regulations.
- Country-specific provisions.
- Guidelines for storage facilities and equipment of the respective country.



AVOID PERSONAL INJURY AND DAMAGE TO PROPERTY

Before assembly, commissioning or use, the information contained in these instructions must be observed in order to avoid hazards. If you need technical support, please contact us.

In order to avoid personal injury and damage to property, please observe the following:

- The cantilever rack system is designed and manufactured in accordance with the guidelines of the Rack Manufacturers Institute (RMI).
- The relevant workplace directives and regulations.
- The information from your safety officer.
- The structural conditions and regulations, in particular the condition and load-bearing capacity of the floor.
- And ensure that the facilities are in good order and condition. Damaged or deformed components must be replaced immediately. If in doubt, stop assembly or use, secure the installation area and inform your safety officer.
- That loading may only be carried out after all assembly work has been completed.
- That the persons carrying out the assembly and conversion work are to be secured against falling in accordance with the local accident prevention regulations.
- Protective clothing such as helmets, gloves, safety shoes, etc. must be worn during assembly and conversion.
- That the racks must be effectively protected against impact from forklifts or other vehicles.

EXPLANATION OF TERMS

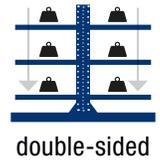
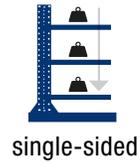
CANTILEVER LOAD

- Total load per cantilever
- Max. 551.16 lbs

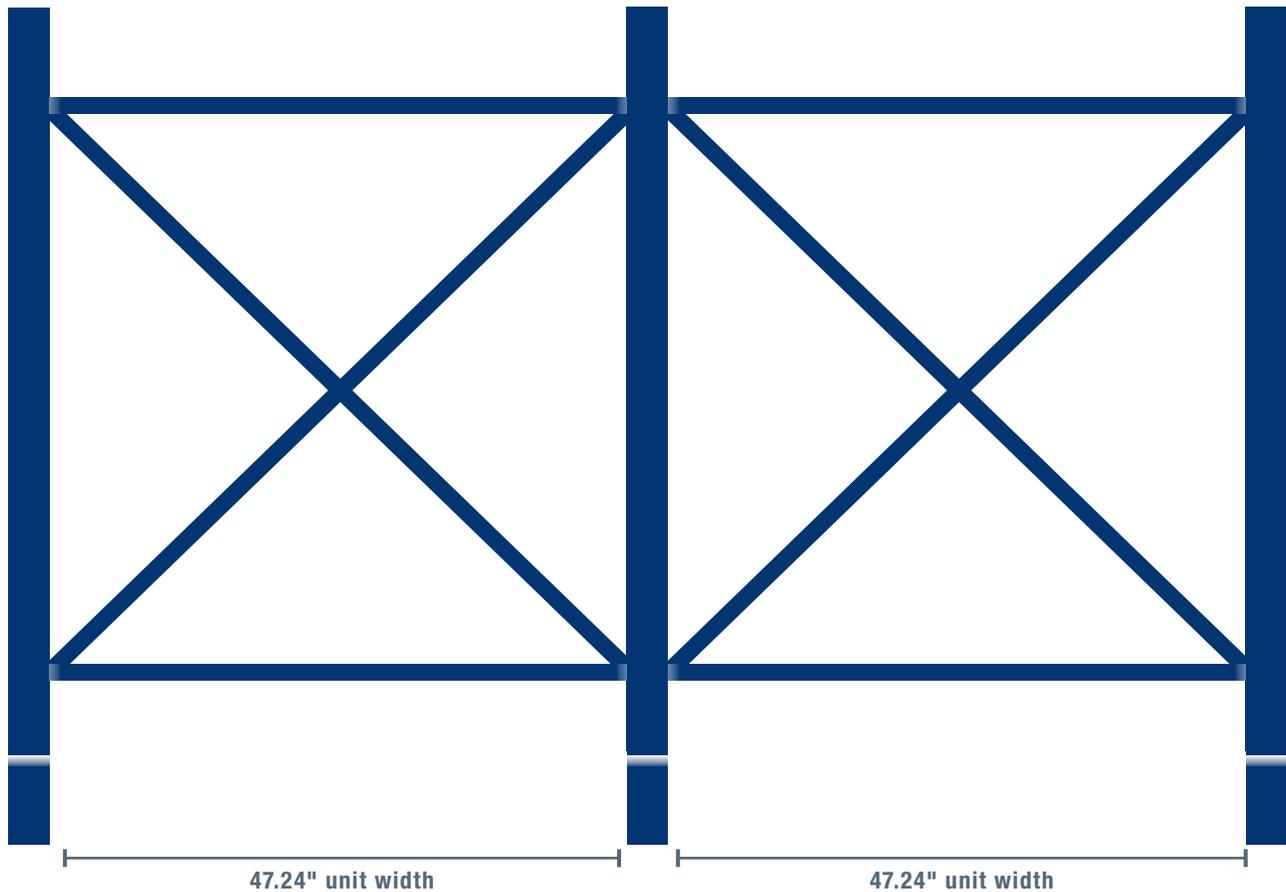


UPRIGHT LOAD CAPACITY

- Total load of all cantilevers per upright
- Max. load depends on whether the rack is single-sided or double-sided
- Max. 2755.78 lbs with single-sided upright
- Max. 5511.56 lbs with double-sided upright



UNIT WIDTH





ASSEMBLY PREPARATION

All original TOPREGAL components used to stabilise the warehouse equipment must be attached without restriction. These mainly include frame components, unit connections, diagonal struts, floor anchors, screws / fastening elements. During assembly one should ensure that the screws are not over-tightened. The screws must be pre-fastened by hand and later tightened using suitable tools such as a cordless drill or a wrench.



TESTING OF FLOOR AND FLOOR TOLERANCES

Before installing rack systems, check the following:

- Whether the load-bearing capacity of the floor is suitable for safely withstanding the intended loads.
- If in doubt, consult a specialist and have the load capacities determined. The responsibility for the correctness of the information lies with the end user.
- The surface of the floor: reinforced concrete slab designed for rack loads , min. 8" thick, concrete quality 3,000 psi is required.
- The flatness of the floor must be guaranteed according to ACI 117 (or ASTM E1155).
- Use only anchor bolts approved for cracked concrete in accordance with local building codes (e.g. ICC-ES).



Assembly

Racks may only be set up and converted by specially instructed persons in compliance with the assembly and operating instructions supplied by us. Racks may only be converted when they are not loaded.



BASIC STRUCTURE

Two uprights per unit are connected to each other using bolted cross and diagonal bracing. The cantilever rack system is then anchored to the load-bearing floor.

The racks must be designed so that the cantilevers do not project beyond the base of the foot, unless stability is ensured by other means. With cantilever racks, it must be ensured that the stored goods cannot fall out. This is achieved by welded-on roll-off safety devices (in accordance with RMI (Rack Manufacturers Institute) guidelines).



SAFETY DISTANCES

Prior to installation, the exact rack position must be marked on the floor. Required safety clearances to building components (e.g. walls, columns) and aisles must be maintained in accordance with RMI recommendations.



LABELLING

Load capacity labeling is mandatory. Load rating labels are included with the rack system and must be installed in a clearly visible location.



PLUMB INSTALLATION

The rack system must be installed plumb and level. Shims or leveling plates must be used to compensate for uneven floor surfaces. All uprights within a rack row must be aligned.

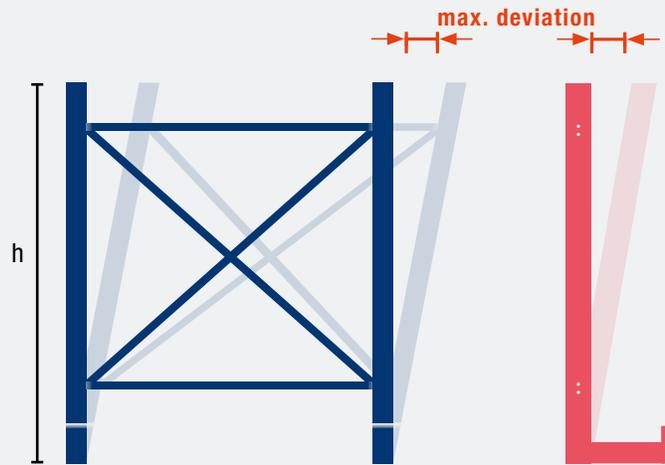
Deviations of the uprights from the vertical position in both the longitudinal and depth directions must not exceed 1/200 of the upright height, in accordance with RMI installation tolerances.

EXAMPLE: RACK UPRIGHT HEIGHT 78.74"

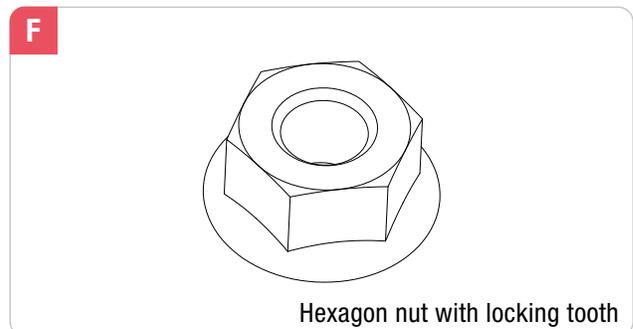
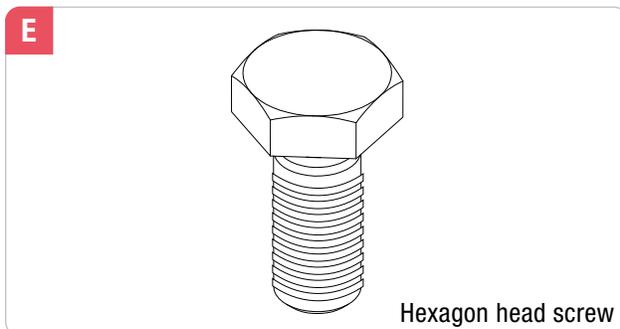
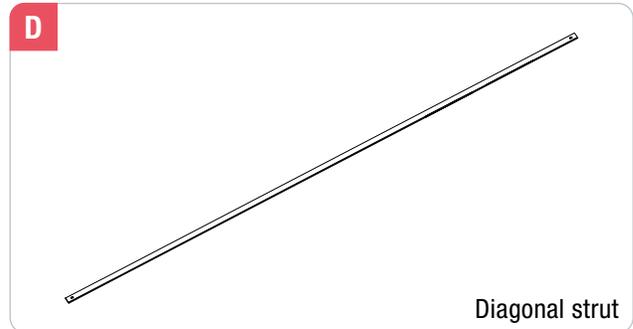
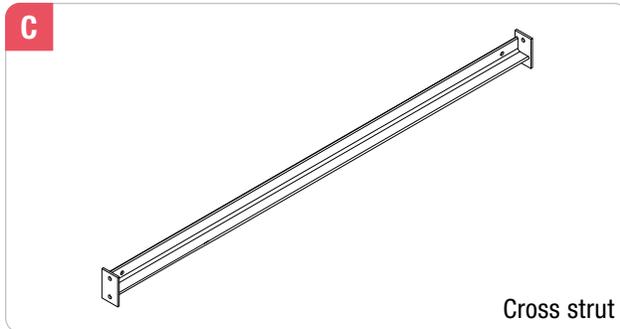
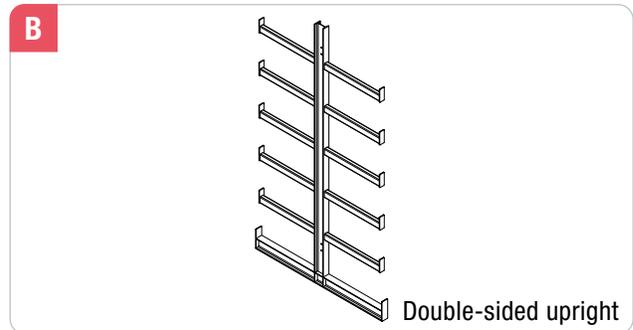
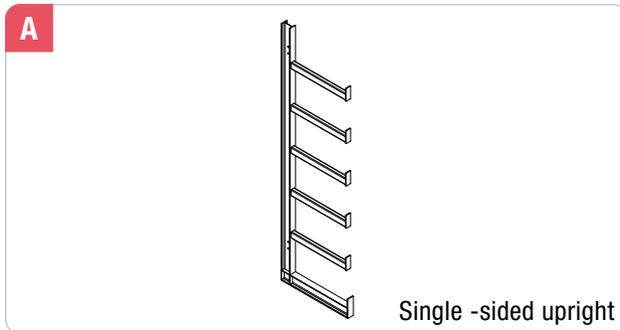
$$\frac{\text{Shelf height } h}{78.74"} = \text{max. deviation}$$

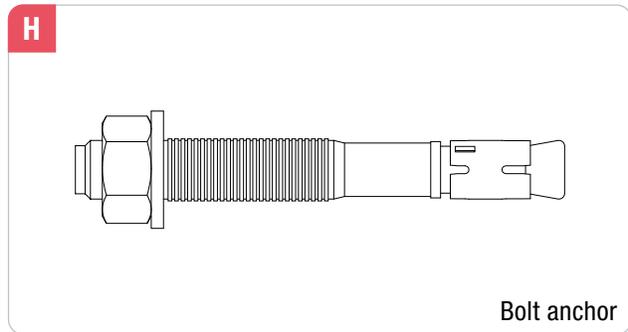
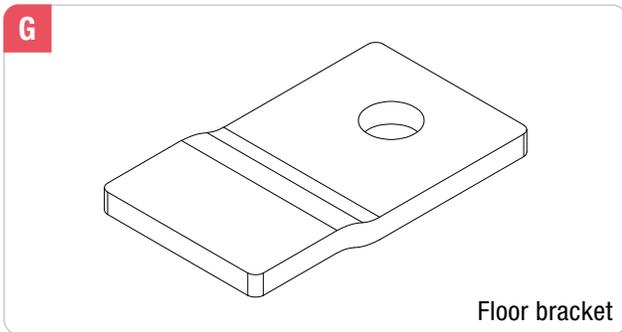
$$\frac{78.74"}{78.74} = 0.39"$$

The maximum deviation in longitudinal and transverse direction must therefore not exceed 0.39".



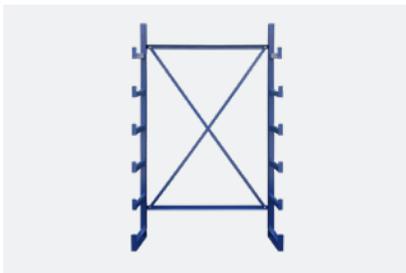
INDIVIDUAL PARTS & ASSEMBLY MATERIAL





OVERVIEW UPRIGHTS

UNIT WITH 78.74" HEIGHT



- Cantilever-rack upright 78.74" high incl. foot plate
- Max. unit load capacity: 2755.78" single-sided / 5511.56" double-sided
- Colour TOPREGAL blue (corresponds roughly to RAL 5005)
- The upright is anchored to the floor using 2 bolt anchors for single-sided rack / 4 bolt anchors for double-sided rack
- 2 diagonal struts (length 74.61" each)
- 2 cross struts (length 47.24" each)

SINGLE-SIDED UPRIGHT



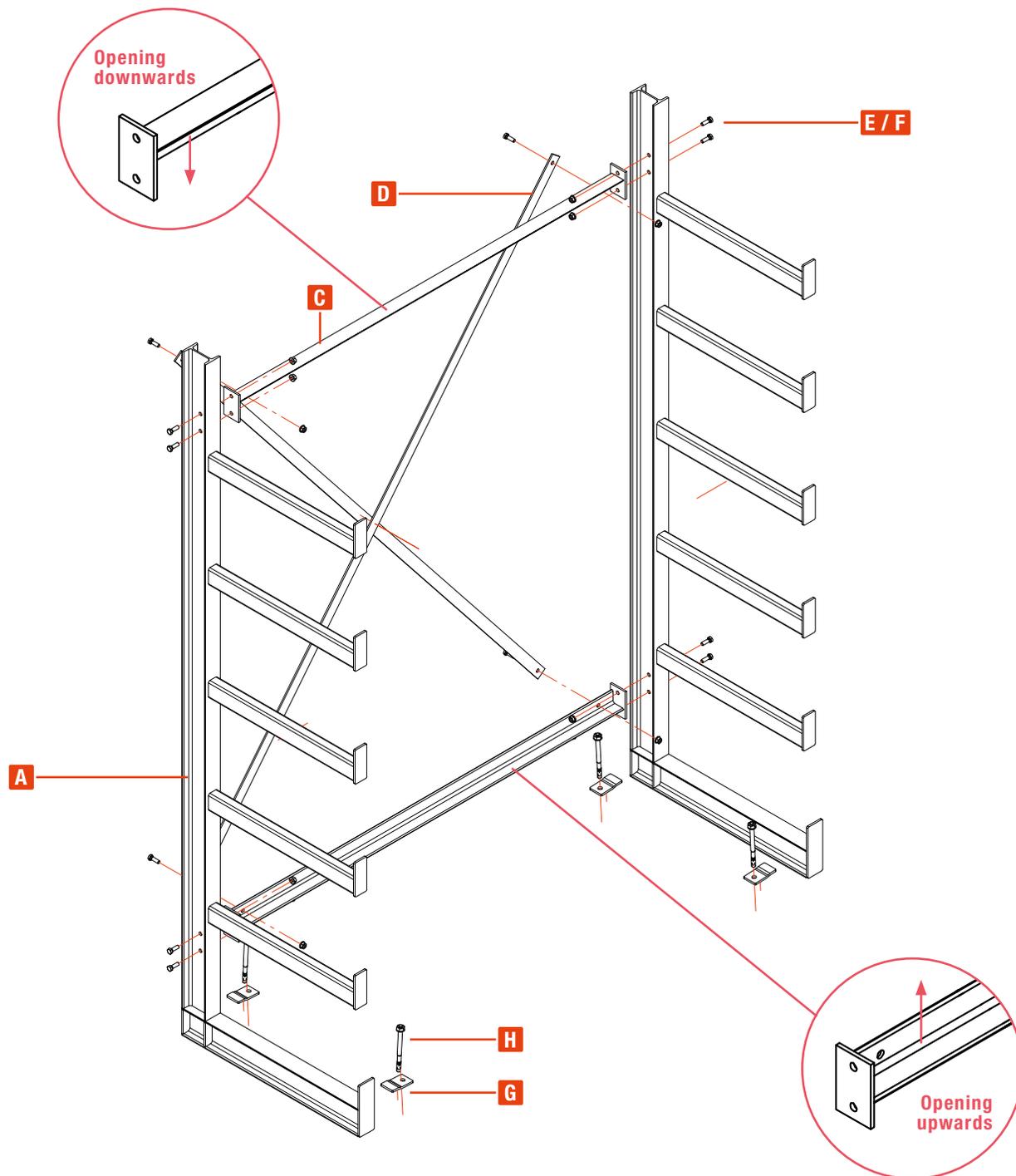
- 5 cantilevers are already firmly welded on
- Foot part is already welded on firmly
- Complete depth including upright 22.83"
- Height of roll-off safety device: 1.97"

DOUBLE-SIDED UPRIGHT



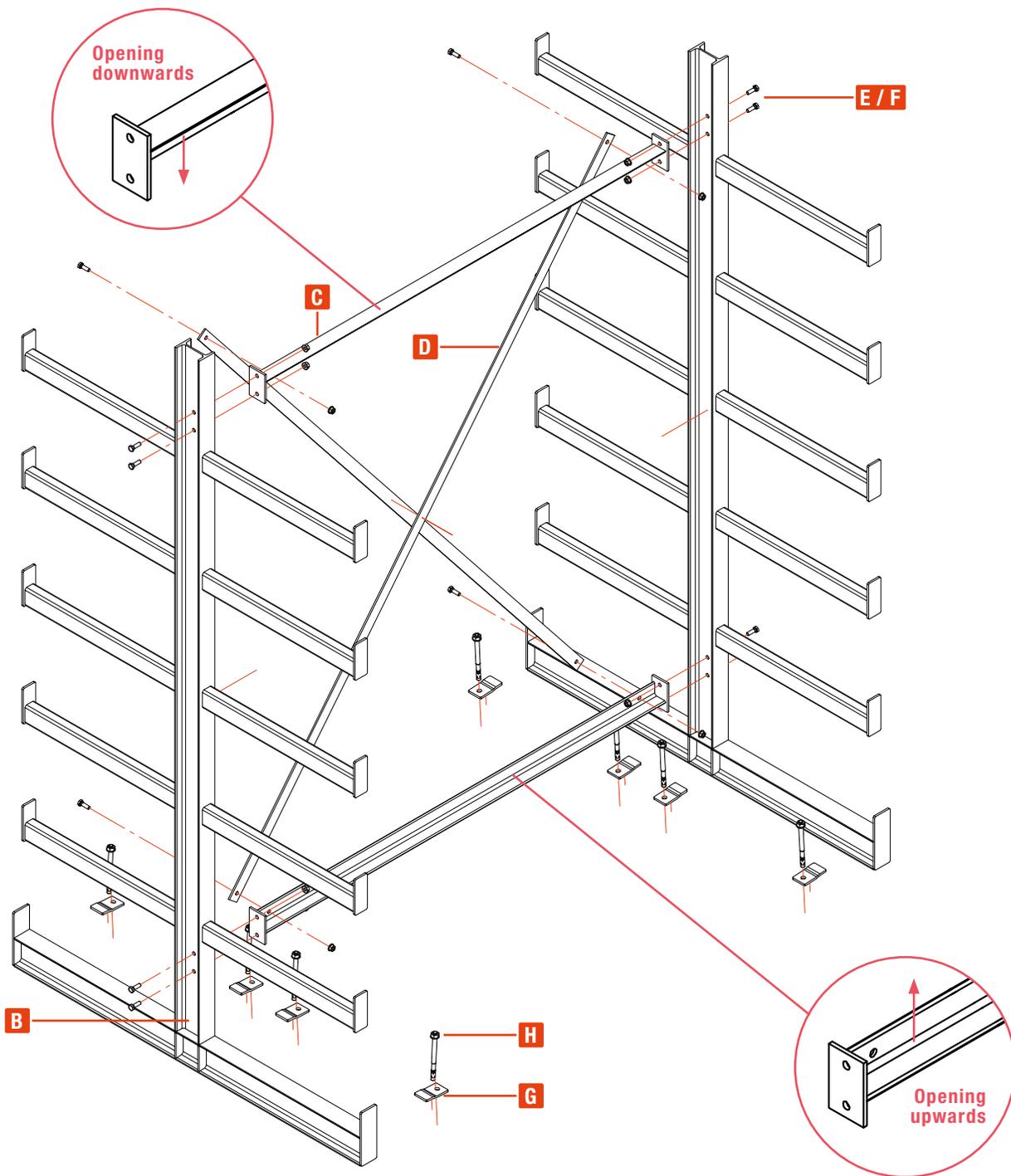
- 10 cantilevers are already firmly welded on
- Foot part is already welded on firmly
- Complete depth including upright 44.49"
- Height of roll-off safety device: 1.97"

SINGLE-SIDED RACK



1. Fasten the cross struts **C** between the single-sided upright profiles **A** using hexagon bolts **E** and nuts **F**.
2. Then attach the diagonal struts **D** to the uprights as shown.
3. Drill holes, push holder **G** with bolt anchor **H** into the floor and tighten bolt anchor.

DOUBLE-SIDED RACK



1. Fasten the cross struts **C** between the double-sided upright profiles **B** using hexagon bolts **E** and nuts **F**.
2. Then attach the diagonal struts **D** to the uprights as shown.
3. Drill holes, push holder **G** with bolt anchor **H** into the floor and tighten bolt anchor.



LOAD & WEIGHT DISTRIBUTION

- The specified, evenly distributed load for cantilever and upright must not be exceeded.
- Care must be taken to ensure that the stored goods are evenly distributed on the shelves.
- The load units must not be dropped on them.
- Racks may only be loaded according to our specifications. The loading of the racks must be evenly distributed, as the static design is based on the assumption of an evenly distributed surface load.
- Point impact loads and sliding loads must therefore be avoided.



INSPECTION & CHECKS

- Has the rack been assembled according to the assembly instructions?
- Are parts of the construction damaged?
- Are there damages due to impact or overload on beams and/or uprights?
- Are the uprights plumb?
- Are there any cracks in the weld seams or in the base material?
- What is the condition and effectiveness of the safety devices?
- What is the condition of the building floor?
- Is the load evenly distributed, are the racks too heavily loaded?
- What is the position of the load unit on the rack?
- Is the stability of the load units given?



HANDLING

- The racks must always be assembled in accordance with the information in the assembly instructions.
- Unauthorised changes to the racks are not permitted in any form.
- Appropriate load capacity stickers are to be affixed to all rack rows. These operating instructions must also be made available to the warehouse workers.
- Local changes to the racks may only be made when they are not loaded.
- People must not stand on racks.
- Damaged and deformed rack parts must be replaced immediately, as the load-bearing capacity is only guaranteed in an undamaged condition. Therefore, damaged components must not be used any further.
- A collision of industrial vehicles (e.g. forklift) with the rack uprights can lead to a massive impairment of the rack's load-bearing capacity and must therefore be avoided under all circumstances.
- In general, all accident prevention regulations and the statutory provisions for work safety also apply.

INSTRUCTIONS FOR USE



GENERAL

People must not stand on rack uprights and shelves, in particular cantilevers. The KR2500 may only be loaded manually.



OPERATING THE RACKS

The centre of gravity of the load must be aligned so that it is stable. Damaged and deformed load-bearing components of a rack system must be replaced immediately, as the load-bearing capacity can only be guaranteed in perfect condition. Persons involved in assembly and dismantling must be secured against falling in accordance with the local accident prevention regulations.



PERMISSIBLE LOAD CAPACITIES

Cantilever load = evenly distributed load on 1 pair of cantilevers.
Upright load = 2755.78" single-sided / 5511.56" double-sided.

The stored goods that are directly on the foot parts are not taken into account. The sum of all cantilever loads must not exceed the maximum upright load. Cantilever loads are evenly distributed loads. The storage of heavier loading units than those specified by us and indicated on the load capacity labels is not permitted.



NOTE FOR FORKLIFTS / LIFT TRUCKS / OTHER INDUSTRIAL VEHICLES

It is imperative that racks are not struck by forklifts, lift trucks, or other industrial vehicles.



RACK INSPECTION

The following aspects, among others, must be examined regularly:

- Are the rack supports perpendicular?
- Are there any cracks in the weld seams or in the base material?
- What is the condition and effectiveness of the safety devices?
- What is the condition of the building floor?
- What is the position of the load unit on the rack?
- Is the stability of the load units given?

The inspections carried out, defects and their remedy are to be documented in writing. This documentation is to be kept at least until the next regular inspection. However, it is advisable to keep the documentation for the entire service life of the rack.



PERSONS QUALIFIED FOR INSPECTION

Qualified persons are those who can demonstrate specialist knowledge from recent professional activity in the environment of the test object and appropriate further training. These are e.g. fitters from the manufacturer or appropriately qualified personnel of the operator.



VISUAL INSPECTION

- Visual inspections are to be carried out on a weekly basis.
- Visual inspections may be carried out by a competent internal person.

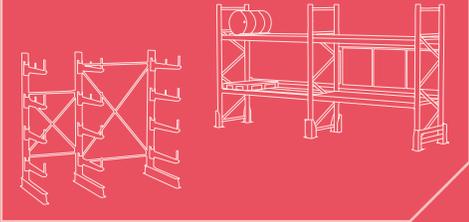
SERVICE & CONTACT

Contact our product experts and find help and solutions for your product. Here you will find all contact information listed by country and language: www.topregal.us/en-us/service

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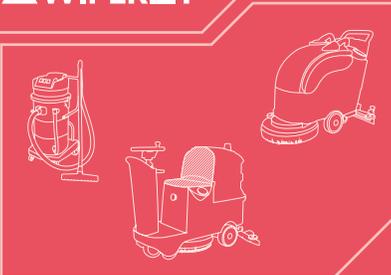
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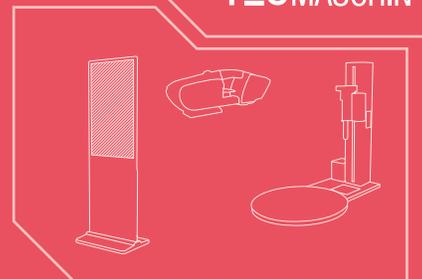
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