

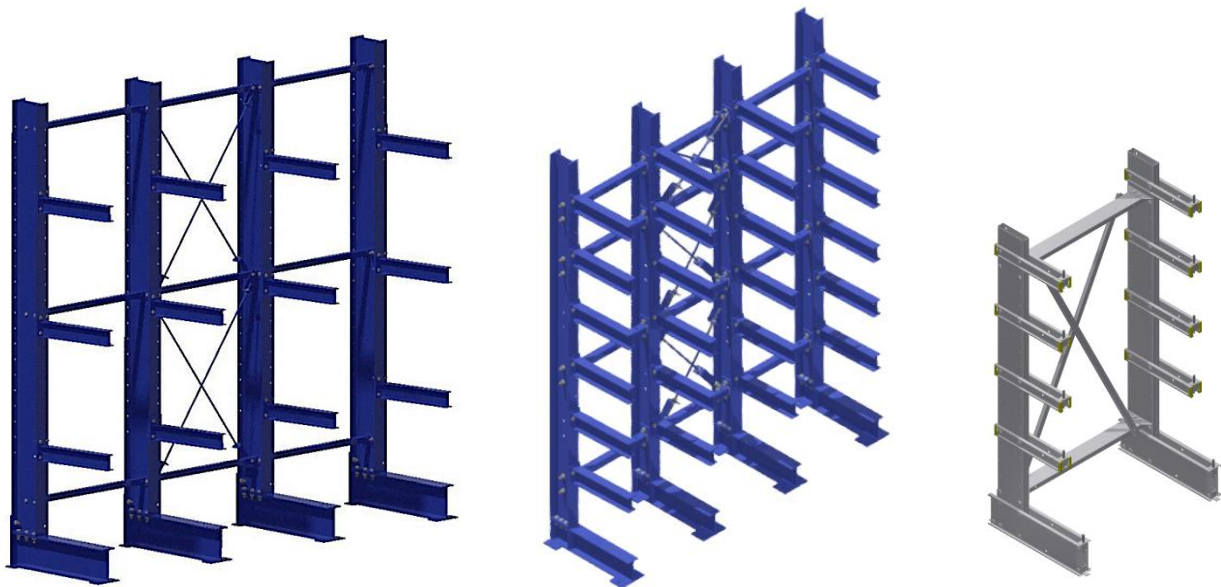
# CANTILEVER USER & MAINTENANCE MANUAL

User Guide Manual

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English

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R10 CANTILEVER – MR14 CANTILEVER – **LR15** CANTILEVER

## Foreword:

This manual contains:

1. Assembly and installation information.
2. Maintenance information.

Correct assembly, installation, use and maintenance are very important for safe operation of your storage rack system.

All the users of this storage rack system should read this manual carefully!

Keep this manual in a visible place, for future reference, retraining and orientation of new users of this product.

Guide for the symbols used in this manual:



**DANGER** indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



**CAUTION** indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

**Thank you** for choosing a Constructor product.



**Read these instructions before assembling or using your storage rack system.** To obtain the maximum benefit from any storage rack system, and for the safety of those around the rack, the rack must be properly assembled and maintained. The information in this manual will assist you in fulfilling your responsibility to provide a safe, properly maintained storage rack assembly.

## 1 Assembly Information



**Cantilever racks should be assembled only by trained personnel, experienced with proper rack assembly procedures.**



Improper cantilever rack assembly can not only cause poor performance of your system, but can also pose a safety hazard in your facility.

If you are unfamiliar with cantilever rack assembly, you should contact Constructor / Dexion or any authorized Distributor for professional rack assembly services. Constructor or Dexion cannot provide guarantee or warranty coverage for any system assembled by anyone other than a Constructor / Dexion approved Installation Contractor.



**It is very important that the cantilever rack structure be installed in a square condition.** Please read the Cantilever Installation Manual for more details!

Since few floors are perfectly flat, shimming of the cantilever rack is frequently required. For checking level and plumb conditions on an average cantilever rack, a good option is to use a carpenter's level (it is recommended that the carpenter's level to be around 1.5m long). The vertical tolerance is mentioned on the Installation drawings provided by Dexion.



**The cantilever rack structure should be assembled and used only as shown on Constructor / Dexion assembly drawing.**



Changing the configuration can affect the load carrying capacity and reduce the structural integrity of the rack system. Before adjusting the rack configuration, contact Constructor / Dexion or the authorized Distributor, to verify the safety and the structural suitability of the new configuration.



**„Bolt and Nut” connections needs to be tightened to a snug and secure condition.**

Tightening to the point of crushing is to be avoided.

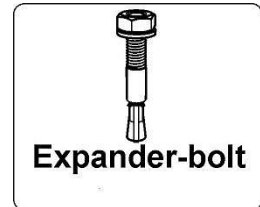
All fixings needs to be in place and properly tightened before the cantilever rack system is to be used.



All the cantilever column/base must be anchored to an adequate concrete floor.

**1. Heavy Duty Cantilever (R10) & Medium Duty Cantilever (MR14):**

- The standard solution for fixing to the ground is with 4 Anchors M12x100. (In special cases 6 Anchors can be recommended by the Technical Department.)



**2. Light Duty Cantilever (LR15):**

- **2 Anchors M10x90 mm**

These are normally included in the material list.



Since anchor bolts vary in strength, if you are purchasing your own anchor bolts, contact Constructor / Dexion or the authorized Distributor for minimum anchor specifications for your installation.



Since concrete floors vary in design and load carrying capacity, Constructor / Dexion cannot guarantee that a particular concrete slab is adequate to support a particular rack installation. The characteristics of the slab should be obtained from the building architect before the racks are specified, so that the rack supplier can design the rack to suit the slab.



**Do not install cantilever racks outdoors**, unless specifically designed by Constructor / Dexion for this purpose. Outdoor usage requires consideration of wind loads, snow loads, etc., which are not normally considered in an indoor cantilever rack design.

If outside Heavy Duty Cantilever is installed on Asphalt by using Spreader Plates under the Bases then the condition of the Asphalt is the customer's responsibility and should be checked regularly by the customer!



**Do not expose your cantilever storage rack to corrosive or abrasive substances or abnormal dampness.** This may cause deterioration of the surface paint and result in premature corrosion.



**Do not store cantilever rack products outdoors unprotected!**



**Be caution when mixing new and existing parts.** Even components produced by the same manufacturer can vary in design.



**Do not mix parts from different manufacturers with Constructor / Dexion components without review by a qualified engineer.** Mixing parts may result in a less rigid structure that can decrease rack capacity. Use of Constructor / Dexion parts with parts from different manufacturers will also void any warranty from our part.



**Do not cut, weld or modify cantilever rack components.** Do not allow any welding or cutting of cantilever rack components without Constructor's / Dexion's written authorization. Such modifications may decrease the load capability of the component and damage your cantilever rack structure, thereby creating a safety hazard. Any modification of any component, unless performed or authorized in writing by Constructor / Dexion, will void any warranty from our part.



**Installation of loading boards is strongly recommended.** These boards should identify the characteristics for which the rack was designed, such as load size, load weight, and rack configuration. These boards are very useful for showing safe loading information to both present and future users. Several signs should be noticeable located for easy visibility, and to be permanently applied to the rack structure.



**Never climb on cantilever racks, during or after assembly.** Cantilever racks are not designed to be stepped on or climbed on. A slip or fall may result in serious injury. It is your responsibility to pass this important warning to all who come into the proximity of your storage rack. This can be done by training and appropriate signage. If your rack is used in a retail environment, high visibility warning signs are especially helpful in preventing this misuse of a cantilever rack structure.



**Allow adequate aisle spacing.** Aisles which are too narrow, or are reduced in size by obstructions (such as temporary floor stacking at rack row ends) can cause serious injury.



**Install good lighting in every rack aisle.** Good lighting improves handling efficiency, prevents accidents, and reduces accidental damage to the rack structure.



**All the workers must wear safety equipment.** Good security measures can prevent serious work accidents.

## 2 Operational & Maintenance Information



**Perform regularly scheduled inspections according to local legal requirements (or at least every 6 months), and maintenance of the cantilever rack system. (in compliance with the EN 15635)**

- ✓ Check for missing or damaged hardware including bolts, nuts. Replace any missing or damaged items. Check that all bolts and fasteners are snug and tight.
- ✓ Check for damage to any components, including arms and columns. Unload damaged cantilever racks immediately and contact Constructor / Dexion or any authorized Distributor for replacement parts. (damage reduces the carrying capacity of the cantilever rack and creates the potential for collapse and injury)
- ✓ Check finish (for scratches), to prevent corrosion
- ✓ Check to ensure that all cantilever racks are level and square.
- ✓ Check to make sure that the cantilever rack is being used for its intended purpose. Maintain a set of installation drawings on site for review. Check the weight of the product being stored to ensure that it does not exceed original design weights.
- ✓ Maintain capacity signs in place.
- ✓ Maintain good housekeeping. Clear, clean aisles are essential to the safety of your facility.



**Train the operators and maintain the equipment used for operating in cantilever racks.**

Educate the cantilever rack users on the below aspects:

- to avoid dropping loads onto cantilever arms.
- how to position correctly the loads to be uniform distributed.
- to report any cantilever rack damages

**Light Duty Cantilever is for manual handling only (manual loading & unloading)!**



**Do not overload any cantilever rack component, bay or system.** Your storage rack is designed to support a specific load weight, in a specific configuration. If you need to store different goods with changed weight or size, contact Constructor / Dexion before starting to store the new items. Using the cantilever rack in any manner other than originally designed could lead to rack collapse and injury.

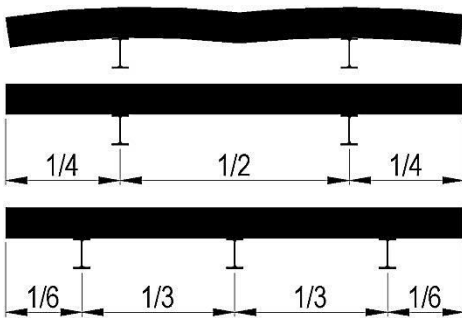
**Required arm capacity** = the weight of the load / number of arms supporting load per level

**Required column capacity** = number of arms per side of column x load per arm



**Determine the number and spacing of support arms.**

Use enough arms under the load to prevent deflection of the load. Deflection causes undesirable side pressure on the arms.



If you do not detect any deflection, you may use two support arms. The arm capacity required will be half the load weight and the upright centerline will be 1/2 of the load length.

If you notice deflection with two supports, try three supports. If this system works, arm capacity will be 1/3 of the load weight, and the upright centerlines will be 1/3 of load length. If three supports are still not enough, add supports as necessary until deflection is eliminated.

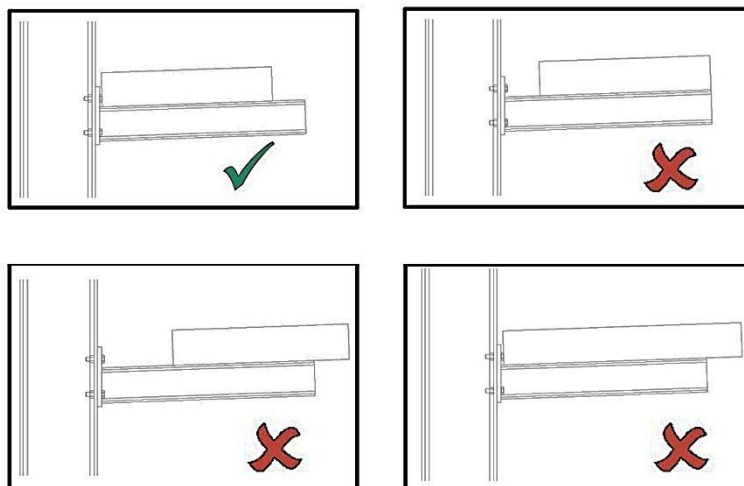
**Note:** Product should overhang the end of the cantilever by 1/2 of the upright centerline distance. Loading without overhang is incorrect.



**Loads must not be placed on the ends of the arms and then pushed back into place!**

Loads needs to be flush with the back of the arm and are not allowed to overhang the arm in front.

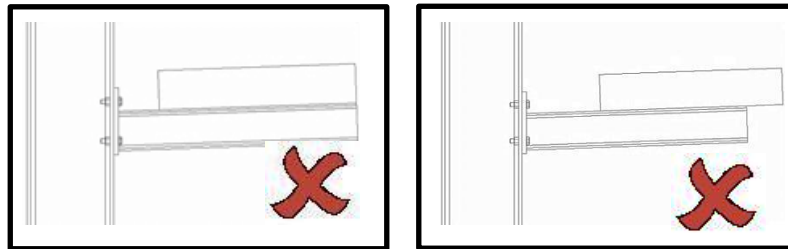
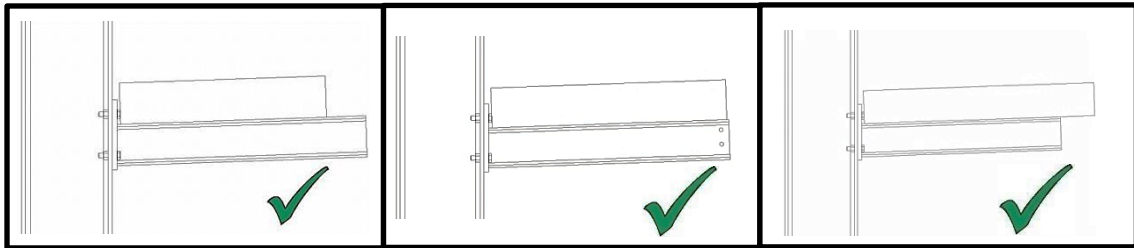
**For Heavy Duty Cantilever (R10) & Medium Duty Cantilever (MR14):**



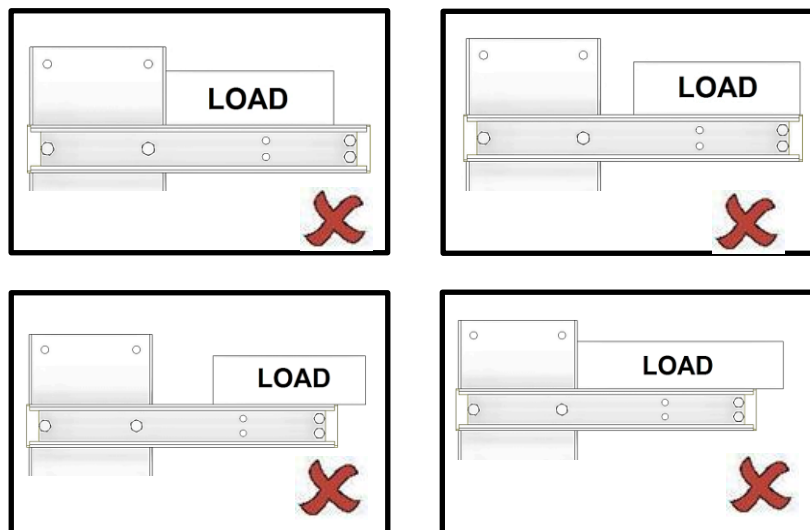
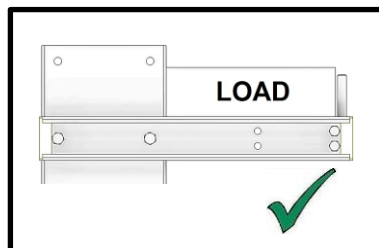
When storing big boards of chipboard (material that will not roll down from the arm and it is strong enough to avoid deflection) can be stored in different conditions than the one mentioned above in the general conditions. The chipboard depth can be equal or bigger than the arm length according to the bellow images but if the depth of the chipboard is bigger than the length of the Arm then the unsupported part of the chipboard shouldn't be more than 12% of the total depth of the chipboard but not more than 220mm). The center of gravity is no longer in the middle of the Arm so the configuration must be checked by a Structural engineer.



If the Arm can be shorter than the depth of the stored chipboard, the Base must be longer to avoid damage of the stored chipboard.



**For Light Duty Cantilever (LR15):**



***Always install the Stoppers! These are safety features at LR15 Cantilever!***



**It is forbidden to load/unload the goods from sides!**



**The forklift truck must be equipped to protect the operator from accidental crushing against cantilever rack, loads and other objects.**

If the operators are exposed to such dangers, contact immediately the lift truck company and ask for that protective device



**Establish good housekeeping practices.** Keep aisles clear of rubbish or obstructions, do not use aisles for storing goods. Keep aisle surface clean and free of ice and condensation.



**For any questions regarding assembly, operation or maintenance of your Constructor / Dexion cantilever rack we are at your disposal. Please contact Constructor / Dexion or the authorized Distributor to receive all the needed assistance.**

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