

Frequently asked questions

on storage rack regulations, January 1, 2018

When do the new storage rack requirements in the Occupational Health and Safety (OHS) Regulation come into effect?

The new storage rack regulations in section 4.43.1 come into effect on January 1, 2018. WorkSafeBC is releasing guidance materials ahead of this date, in order to assist employers with understanding and preparing for the changes.

Employers should keep in mind that many of the requirements in the new storage rack regulations are current requirements in the general sections of the Regulation that could apply to any type of storage rack (e.g. sections 4.2, 4.3, 4.8, 4.43).

I have storage racks of various types and sizes. How do I determine if the new regulations in section 4.43.1 apply to these racks?

Section 4.43.1 applies to steel storage racks, made of steel frames, beams, and associated accessories, that are assembled into a structure to support materials and products, as outlined in subsection (1). For example, the most common steel storage racks that the new regulations apply to are pallet racks and cantilever racks.

The new section does not apply to shelving and display fixtures used for retail purposes; for these items, the general sections of the Regulation listed in the question above will continue to apply. Subsection (2) further narrows the application to steel storage racks that are 8 feet or taller in height, as measured from the floor to the top of the highest shelf on the storage rack. The requirements also apply to steel

storage racks that are under 8 feet in height, if the materials and products are loaded or unloaded off the storage rack by other than manual means (e.g. forklift, automated mechanical system).

WorkSafeBC has produced a guideline that provides examples of steel storage racks to which section 4.43.1 applies (OHS Guideline G4.43.1).

Will there be an inspection program focusing on storage racks when the new regulations come into effect?

WorkSafeBC is not planning a storage rack inspection initiative to coincide with the new storage rack regulations. Officers will follow the same risk-based enforcement approach they currently use to inspect storage racks in workplaces; and will issue corrective orders, as necessary, based on observations and available evidence.

For general inspections of storage racks, officers will typically focus on conditions that are moderate or high risk to workers. Examples of moderate- to high-risk conditions are:

- storage racks that are overloaded with signs of damage or corrosion or in disrepair,
- evidence of questionable repairs
- missing or incompatible parts
- unsafe loading practices (e.g. overloaded, load overhang, loads not secured/wrapped properly, unstable loads)

The new regulation states that employers must ensure that storage rack inspections are conducted at regular intervals. How do I determine the inspection interval that's appropriate for my operations?

WorkSafeBC has produced a guideline that provides information on how an employer may determine the inspection frequency that's appropriate for their workplace and operations (OHS Guideline G4.43.1). The employer will need to review aspects of their operations and work environment, such as where the storage racks are located, how loads are handled, and the level of activity to determine an inspection interval that's effective for them. The frequency of inspections may change over time depending on the outcome and findings of successive inspections.

What should I do if I have a storage rack where the manufacturer is unknown?

Many steel storage racks meeting a certain design standard have product identification markings on the rack components (e.g. stickers or embossed markings) which may help you identify the manufacturer or the date it was manufactured. If there are no markings of any kind, ask storage rack manufacturers, distributors, or engineers for assistance.

I have some storage racks requiring repairs or replacement, but it may take some time to get the necessary parts or expert services. What can I do to demonstrate to the WorkSafeBC officer that I am moving towards compliance?

WorkSafeBC expects employers to ensure the safety of workers around storage racks. If an employer identifies storage racks that require repair or replacement, it is expected that the employer will take necessary

corrective actions to reduce the risk to workers until such time as the rack is repaired or replaced.

An effective rack inspection program developed by the employer should indicate which racks need attention first so that repairs and replacement could be prioritized. Depending on the results of the inspection and assessment, examples of immediate corrective actions by the employer could be to take the specific storage rack out of service, minimize the load on the storage rack, or isolate the rack from further damage.

Can a member of my staff be the qualified person that installs or uninstalls storage racks, or conducts regular inspections of the racks, as per the new regulations?

The term qualified is defined in section 1.1 of the Regulation as being knowledgeable of the work, the hazards involved, and the means to control the hazards, by reason of education, training, experience or a combination thereof. WorkSafeBC has produced a guideline that further informs employers about the expected competencies of a person qualified to install/uninstall storage racks or to conduct routine inspections of storage racks (OHS Guideline G4.43.1). It is the employers' responsibility to ensure that the qualified person can competently perform the required tasks.

Although the same term **qualified person** is used in sections 4.43.1(4) and (8), the qualified persons in these two roles likely possess different levels of technical competencies. For instance, the qualified person for the purpose of installing / uninstalling has the knowledge and ability to understand the instructions of the manufacturer or a professional engineer to safely install/uninstall storage racks. However, the qualified person for the purpose of inspecting storage racks would not necessarily need this particular skill.

I have storage racks that are in good condition and are being used safely, but because of the age of the storage racks, I don't have the manufacturer's instructions or specifications. Can I continue to use these storage racks?

The new regulation recognizes that there may be instances where the manufacturer of the storage rack may be unknown. In these cases, the regulation permits a professional engineer to provide the necessary instructions and specifications.

Consult with a professional engineer to request their assistance to determine whether the storage racks can continue to be used under some operating condition.

How do I find a professional engineer that can assess my storage racks?

A good place to start is the Engineers and Geoscientists BC website (egbc.ca) to find a professional engineer who is competent in this area of practice. Engineers and Geoscientists BC has a "Discrete Scope Projects Directory" where members can self-declare their areas of practice. Members who are qualified and have experience in the area of storage rack design and assessment can add their expertise and contact information to this directory. Just like hiring any other professional service, employers must exercise due diligence in selecting persons offering engineering services by reviewing their knowledge and experience as well as their credentials.

Do storage rack manufacturers have any obligations to provide safety instructions for their racks?

Yes. The *Workers Compensation Act* defines a supplier as a person who manufactures, supplies, sells, leases, distributes, erects or installs any equipment to be used by a worker. Section 120 of the Act states that a supplier must provide directions respecting the safe use of any tool or equipment. In

the case of storage racks, the directions for safe use could include those related to rated capacities and safely loading and unloading, maintaining, inspecting, installing, dismantling, and modifying storage racks.

The new storage rack regulations say to post the rated capacities of my storage racks. What if I don't have the rated capacities for my rack system? Do I need engineering drawings to show the rated capacities?

All storage racks have a rated capacity for safely carrying loads. According to section 4.8, the rated capacity of workplace equipment is the one specified by the manufacturer of the equipment based on its design. If that information cannot be produced from the manufacturer, the rated capacity needs to be determined and certified by a professional engineer.

If the rack manufacturer is known, the employer could consult the manufacturer on how to go about determining the rated capacity. The process may involve engineering services depending on the age, the condition, and the complexity of the storage rack system.

To comply with the posting requirement, the document outlining the rated capacity from the manufacturer or the professional engineer does not have to be in the form of a certified engineered drawing or engineered stamped document. However, the employer needs to be confident about the origin of the rated capacity and be sure it was designed and rated using good engineering practice.

If there are questions about the capacity of the storage rack system during an inspection or incident investigation, WorkSafeBC officers may ask the employer for supporting information relating to how the manufacturer or the professional engineer determined the rated capacity. This information may include documentation, such as engineering drawings, calculations, and other pertinent information about its design.

To comply with the Regulation, does the rated capacity have to include seismic loads on the rack system?

WorkSafeBC does not regulate design load factors, such as seismic loads, which may be used by the manufacturer or a professional engineer to calculate the rated capacities of rack systems. The rated capacity is determined during the engineering design, and it is the responsibility of the design engineer to determine the capacity based on professional engineering practice and good engineering design principles.

It is the responsibility of the employer to adhere to local building code requirements such as seismic requirements for racks. In B.C., these requirements vary between municipalities, so employers should contact their local authority to ask about seismic requirements for storage racks.