



Dock Bumper Applications

Dock bumpers are designed to protect the loading dock, building and equipment from impact by docking trailers. Weighing in at well over 40,000 lbs., a fully loaded trailer can cause costly damage to the dock if the shock is not absorbed by properly applied bumpers. No two loading docks are the same. Use the following guide to determine which Dock Bumper best suits the specific needs of each one.

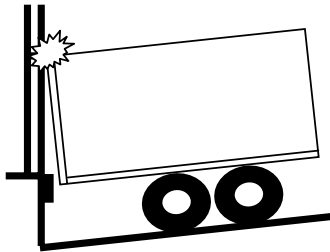
QUESTIONS TO ASK

- What is the dock height (from grade level to top of dock floor)?
- Is there an existing cantilever or other dock extension present? If so, what size is it?
- What is the percentage of grade (slope) of the dock approach (rise of approach in 50' - dock height / 600")
- What is the condition of the concrete where dock bumpers will be mounted? Will it accept new anchors?
- Can new bumpers be welded to the dock pit curb angle on one side?
- What is the percentage of air-ride trailers versus others using this dock?
- What different bed heights of trailers use this dock?
- What different widths of trailers use this dock?

DETERMINING BUMPER PROJECTION

Most conventional loading docks use a 4" projection dock bumper with great success. This keeps the trailer far enough away from the building wall so that traditional foam dock seals are not over-compressed and that dock equipment is protected.

However, when the dock approach is declined (i.e. trailer travels downhill when approaching the dock), it is critical to increase the bumper projection so the top of the trailer doesn't impact the building wall. The goal should be to keep the trailer a minimum of 4" away from the wall at all times. The following should be used as a guide for determining bumper projection:



Percent of Grade	Optimum Bumper Projection	Minimum Bumper Projection
1%	7"	5"
2%	8"	6"
3%	9"	7"
4%	10"	8"
5%	11"	9"
6%	12"	10"
7%	13"	11"
8%	14"	12"
9%	15"	13"
10%	16"	14"
11%	17"	15"
12%	18"	16"

Increasing bumper projection can be accomplished in several ways:

1. Creating a cantilever dock by adding concrete to the face of the dock.
2. Removing existing dock bumpers and installing an **Extension Bracket** (see pg. 10/11) to extend bumper.
3. Installing an **Extra Projection Bumper** (see pg. 6) of the appropriate projection.

In many cases, choosing options 2 or 3 results in a quality, economical installation.

Note: When increasing bumper projection on existing docks using docklevelers, care must be taken to ensure there will be adequate lip purchase into the trailer. Consult dockleveler manufacturer for options to extend lip service range if required.



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DETERMINING BUMPER HEIGHT

Different trailers will impact dock bumpers at different heights. The majority of dock bumper applications will require the use of a "Vertical" style dock bumper, or one that is a minimum of 20" high. This size of bumper will provide the greatest amount of protection. If the loading dock encounters a consistent size of trailer, give consideration to a 12" dock bumper mounted at the proper height.

DETERMINING BUMPER WIDTH

In most cases, trailers are between 96" and 102" wide. If dock bumpers are spaced between 72" and 90" apart they will offer good protection, provided they are mounted at the correct height (see "mounting height"). Vertical style bumpers with 9" face will work well in most applications. **Extra-Wide Laminated Bumpers** (see pg. 7) can be used to cover a larger portion of the dock when a dockleveler does not exist.

MOUNTING HEIGHT

The trailer must not be allowed to over or over-ride the dock bumper. Doing so defeats the purpose of the dock bumper. For average applications, it is recommended that dock bumpers are mounted at a minimum 52" off grade. If the dock height is lower than 52", use **Above Dock Riser Brackets** (see pg. 10) to raise the bumper to the acceptable height. Note: Ensure loading/unloading operations are not hampered by using Riser Brackets.

AIR-RIDE TRAILERS

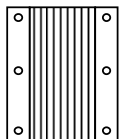
Of growing concern is the probability of air-ride trailers at the loading dock. Recent studies indicate over 50% of today's trailers utilize air-ride suspension systems. Trailers of this type cause more wear & tear on dock bumpers because of the increased friction caused by the up/down motion as loads pass from dock to trailer. **Steel-Faced Laminated Dock Bumpers** (see pg. 4) utilize a steel face plate to protect the rubber face of the bumper. The "floating" steel face plate allows the rubber inside the bumper to be compressed and absorb the shock of trailer impact.

CHOOSING THE PROPER BUMPER

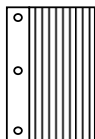
Application	Steel-Faced	Laminated	Moulded
Air-Ride Trailers	Excellent	Good	Fair
High Traffic Docks	Excellent	Good	Fair
Height Range	up to 36"	up to 36"	up to 18"
Width Range	up to 36"	up to 126"	up to 18"
Projection Range (without Extension Bracket)	4" & 6"	4" to 6"	4"
Can be used with Extension Bracket	yes	yes	yes
Can be used with Riser Bracket	yes	yes	yes
Can be used with Bumper Mounting Plate	yes	yes	yes

*Nominal charge to factory weld bumper to bracket makes installation simpler

CHOOSING THE MOUNTING METHOD

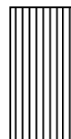


Standard Model
Angles on both sides for anchoring into concrete.



P1 Style
Angles on one side for concrete anchoring, flat plate on the other for welding to curb angle.

Specify "/P1" after model number (eg. LVB420-11/P1)



P2 Style
Flat plates on both sides for welding to dock face and/or special bracketing.

Specify "/P2" after model number (eg. LVB420-11/P2)