

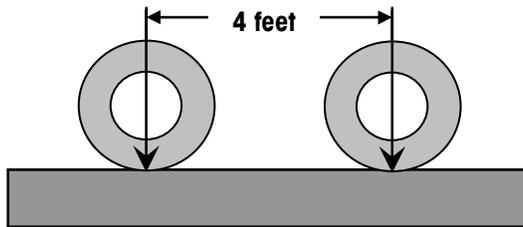
Concentrated Load Capacity

The capacity of the scale is frequently the first piece of information requested. This must be addressed in two different ways. The most common definition of capacity is the *gross scale capacity*. This defines the maximum weight of a vehicle that can be weighed on the scale. However, it says nothing about how that load is applied to the scale. Therefore, gross scale capacity is irrelevant in regards to the actual strength of the weighbridge. In order to establish a measure of the actual strength of the weighbridge, we will use the definition of the Concentrated Load Capacity, often referred to simply as the CLC.

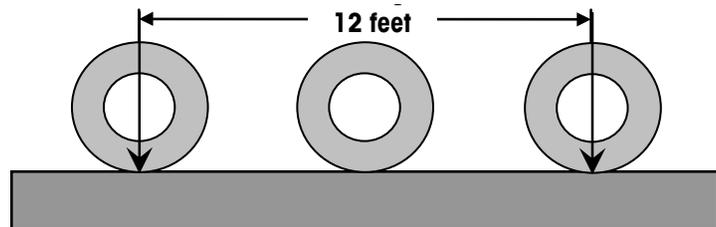
The definition of CLC is: "In the case of vehicle and axle-load scales, it is the maximum axle load concentration (for a group of two axles with a centerline spaced 4 feet apart and an axle width of 8 feet) for which the weighbridge is designed as specified by the manufacturer."¹

This definition can be used to evaluate any two weighbridges on an even ground. It can also be used in conjunction with the table below to evaluate the suitability of the weighbridge for additional axle configurations.

In the example below there is an example of how to evaluate the required CLC for two different axle arrangements. Assume that the scale has a CLC equal to 80,000 lb. That means that the first arrangement can have a maximum combined axle weight of 80,000 lb. However, when three axles apply the load over a 12-foot spread, the maximum combined axle weight can be 80,000 x 1.324 or 105,920 lb. Using the table, you can determine the maximum allowable combined axle weight for any axle configuration.



Maximum Combined Axle Load = CLC 1.000



Maximum Combined Axle Load = CLC 1.324

Distance in feet between the extremes of any group of 2 or more consecutive axles	Ratio of CLC to maximum load ("r" factor) carried on any group of 2 or more consecutive axles				
	2 axles	3 axles	4 axles	5 axles	6 axles
4 feet	1.000				
5 feet	1.000				
6 feet	1.000				
7 feet	1.000				
8 feet and less	1.000	1.000			
Over 8 feet	1.118	1.235			
9 feet	1.147	1.257			
10 feet	1.176	1.279			
11 feet		1.301			
12 feet		1.324	1.471	1.632	
13 feet		1.346	1.490	1.651	
14 feet		1.368	1.510	1.669	
15 feet		1.390	1.529	1.688	1.853
16 feet		1.412	1.549	1.706	1.871
17 feet		1.434	1.569	1.724	1.888
18 feet		1.456	1.588	1.743	1.906
19 feet		1.478	1.608	1.761	1.924
20 feet		1.500	1.627	1.779	1.941

Table UR.3.2.1¹

Produced in a facility that is



¹ Reprinted from:

NIST Handbook 44: Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices