



## TECHNICAL GUIDE

# BALCO LOAD DATA SHEET

## Establishing Minimum Design Loads For Balco Products

When establishing the minimum design loads for our products, an important consideration is their capacity to allow the minimum live loads defined by IBC Table 1607.1. These IBC loads have been established primarily for the design of the flooring and supporting structure.

Additional design considerations should be given to expansion joint systems; mats and grids; trench and access covers, and similar design elements incorporated into the floor. These systems are most often affected more by localized concentrated loads. These more localized loads are typically produced by wheeled equipment as it crosses the systems.

Balco has developed the following table of frequently encountered concentrated wheel loads. In order to fully define these loads, a load magnitude and load contact area is given. It is not enough to specify only a load magnitude, or to categorize it as a “wheel load,” “rolling load,” “point load” or “concentrated load.” The severity of the load is unclear and under-defined without a load contact area. The smaller the load contact area, the more severe the load and the higher the resulting stresses and deflection.

Balco uses load contact areas appropriate for the equipment types as defined by the building code and/or the equipment technical data. These categories are used to classify the load capacity of Balco systems. Systems are analyzed based on allowable stress and allowable deflection. Stress is limited to prevent the system and components from yielding or permanently deforming. Deflection is limited to maintain pedestrian comfort and to prevent cracking or dislodging of infill materials.

Please reference the table on the following page for Balco’s standard design load cases. Balco technical data sheets display the applicable graphics from the first column to denote product load capabilities.

# BALCO LOAD DATA SHEET

Associated Graphic	Design Load	Load Contact Area	Design Load Basis
 <b>PEDESTRIAN</b>	300lbs (136kg)	2"(50mm) X 2"(50mm)	IBC Table 1607.1
 <b>GURNEY/BED</b>	450lbs (204.1kg)	2"(50mm) X 2"(50mm)	Equipment TDS
 <b>X-RAY</b>	450lbs (204.1kg)	2"(50mm) X 2"(50mm)	Equipment TDS
 <b>FLOOR SWEEPER</b>	833lbs (377.8kg)	3.5"(87.5mm) X 3.5"(87.5mm)	Equipment TDS
 <b>GOLF CART</b>	450lbs (204.1kg)	4"(100mm) X 4"(100mm)	Equipment TDS
 <b>PASSENGER CART</b>	680lbs (308.4kg)	4"(100mm) X 4"(100mm)	Equipment TDS
 <b>PALLET JACK</b> 3370lbs Payload	880lbs (399.1kg)	6"(150mm) X 0.75"(19mm)	Equipment TDS
 <b>PALLET JACK</b> 5620lbs Payload	1,425lbs (646.4kg)	6"(150mm) X 0.75"(19mm)	Equipment TDS
 <b>CLASS FL 2 FORKLIFT</b> 3370lbs Payload	4,500lbs (2041.2kg)	4"(100mm) X 4"(100mm)	DIN EN 1991-1-1
 <b>CLASS FL 3 FORKLIFT</b> 5620lbs Payload	7,100lbs (3220.5kg)	4"(100mm) X 4"(100mm)	DIN EN 1991-1-1
 <b>SCISSOR LIFT</b>	2,310lbs (1047.8kg)	4"(100mm) X 4"(100mm)	Equipment TDS
 <b>SLOW VEHICULAR</b>	3,000lbs (1360.8kg)	4.5"(112.5mm) X 4.5"(112.5mm)	IBC Table 1607.1
 <b>HS-20 VEHICULAR</b>	16,000lbs (7257.5kg)	8"(200mm) X 20"(500mm)	AASHTO HS-20

## Notes:

All design loads cited are the load per wheel.

All design loads have been established based on a general survey of typical equipment weights and wheel sizes. Data for specific equipment anticipated should be supplied when known.

Contact the factory for analysis of unique or project-specific load requirements. When doing so, please provide the required load magnitude and contact area, or the make and model or technical data of the equipment anticipated to be crossing the system.