



INDUSTRY

PAVIATH INTEGRATED SOLUTION

STRUCTURAL

RACK SYSTEM

RACK SYSTEM I

Paviath ONLINE

◆ STRUCTURAL ◆ RACK SYSTEM ◆ INDUSTRY ◆ TRAINING

## ENCYCLOPEDIA OF RACKING SYSTEM

## I. RACK SYSTEM (FOR GENERAL &amp; ALL TYPES)

<https://en.wikipedia.org/wiki/Rack>

AMP RACK, SHORT FOR AMPLIFIER RACK, A PIECE OF FURNITURE IN WHICH AMPLIFIERS ARE MOUNTED

BICYCLE RACK, A FRAME FOR STORING BICYCLES WHEN NOT IN USE

BUSTLE RACK, A TYPE OF STORAGE BIN MOUNTED ON ARMORED FIGHTING VEHICLES

DRYING RACK, FOR HANGING CLOTHING TO DRY

PALLET RACKING, STRUCTURAL RACKS (USUALLY STEEL) FOR STORING PALLETISED LOADS

RACK (BILLIARDS)

ROOF RACK, A SYSTEM USED TO CARRY ITEMS ON TOP OF A CAR

STANDARDIZED EQUIPMENT RACKS

19-INCH RACK AND 23-INCH RACK, COMMONLY USED FOR COMPUTER, COMMUNICATIONS, AND AV EQUIPMENT

RACK UNIT, EQUIPMENT SIZING MEASURE

INTERNATIONAL STANDARD PAYLOAD RACK, USED IN SPACEFLIGHT

TOAST RACK, A SERVING PIECE

## RACK TYPES, DEFINITION AND APPLICATION

PALLET RACKS ARE A CONVENIENT AND FUNCTIONAL DESIGN FOR PLACING GOODS ON PALLETS. PALLET SHELVING STRUCTURES CAN BE SUBDIVIDED INTO FRONTAL AND DEEP.

SHELVING RACKS ARE A TYPE OF SHELVING USED FOR STORING PIECE AND MANUAL HANDLING IN A DIVERSIFIED WAREHOUSE OF PIECE PRODUCTS: CONTAINERS, BOXES, ETC.

MOBILE RACKS ARE STRUCTURES DESIGNED FOR ROOMS WITH LIMITED VOLUME, REQUIRING THE ORGANIZATION OF A SYSTEM WITH THE ABILITY TO CLASSIFY ITS CONTENTS. THESE SHELVING SYSTEMS ARE IDEAL FOR VARIOUS ARCHIVES AND LIBRARIES.

CANTILEVER RACKS ARE USED FOR STORING OVERSIZED LONG LOADS. SUCH LOADS ARE PLACED USING SPECIAL EQUIPMENT.

GRAVITY RACKS ARE A SPECIAL TYPE OF PALLET RACKS, EQUIPPED WITH SPECIAL ROLLER TRACKS, INCLINED AT A SLIGHT ANGLE TO THE HORIZON (3 - 5 DEGREES) SO THAT PALLETS ROLL FROM THE LOADING AREA TO THE UNLOADING AREA UNDER THE INFLUENCE OF GRAVITY.

MEZZANINES ARE EQUIPMENT THAT, THANKS TO THE MULTI-TIERED STRUCTURE, HELPS TO MAXIMIZE THE USE OF THE ENTIRE WAREHOUSE AREA.

ADDITIONAL TYPES TO BE ADDED

## I. RACK SYSTEM (FOR GENERAL &amp; ALL TYPES)

ENCYCLOPEDIA OF ALL TYPES

DEFINITION, DESCRIPTION OF EACH TYPES

DESIGN CRITERIA OF EACH TYPES

TECHNICAL PAPERS ON ANALYSIS & DESIGN OF EACH

LIST OF MANUFACTURER OF EACH IN INDIA & OTHER COUNTRIES

TYPES & SPECIFICATION AVAILABLE IN MARKET

## III SHELVING DESIGN CRITERIA (FOR GENERAL &amp; ALL TYPES)

METHODS AND APPROACHES TO THE CALCULATION OF RACKING

A) SETTING LOADS

B) EFFECTIVE CROSS-SECTIONAL AREA, TAKING INTO ACCOUNT LOCAL BUCKLING

C) CALCULATION OF THE DEFLECTIONS OF THE PALLET BEAM

D) COLLAPSE EXPERTISE - POSSIBLE CAUSES

STANDARDS FOR GENERAL & ALL TYPES

GOST RUSSIAN STANDARD

DIN GERMAN STANDARD

EN EUROPEAN STANDARD

ISO INTERNATIONAL STANDARD

BIS INDIAN STANDARD

OTHER STANDARDS

## DESIGN &amp; ANALYSIS TECHNICAL PAPERS FOR GENERAL &amp; ALL TYPES

## SEISMIC BEHAVIOR AND DESIGN OF STEEL STORAGE RACKS

[https://www.iitk.ac.in/nicee/wcee/article/13\\_481.pdf](https://www.iitk.ac.in/nicee/wcee/article/13_481.pdf)

## DESIGN OF INDUSTRIAL STORAGE RACKS

<https://scholarsmine.mst.edu/cgi/viewcontent.cgi?article=1467&context=iscss>

## SPECIFICATION FOR THE DESIGN, TESTING AND UTILIZATION OF INDUSTRIAL STEEL STORAGE RACKS

[https://www.pallettracksystems.com/assets/docs/ANSI\\_testing\\_standards.pdf](https://www.pallettracksystems.com/assets/docs/ANSI_testing_standards.pdf)

## DESIGN GUIDE

[https://www.eqc.govt.nz/sites/public\\_files/338-Seismic-design-high-level-storage-racking%28red%29.pdf](https://www.eqc.govt.nz/sites/public_files/338-Seismic-design-high-level-storage-racking%28red%29.pdf)

## MANUFACTURER LIST

## CRAFTSMAN STORAGE SYSTEMS

<https://www.craftsmanstorage.com/>

## NATIONAL STEEL INDUSTRIES

<https://www.nationalsteelindustries.co.in/heavy-duty-racks.html>

## PRP FURNITURE INDUSTRIES

<https://www.prpfurniture.in/pallet-racking-system.html>