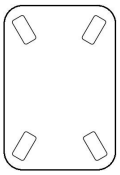
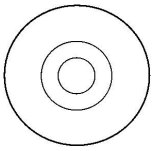
CASTOR AND WHEEL GUIDE




Mountings

Top Plate - The most common fixing with four boltholes to spread the load over the swivel head.



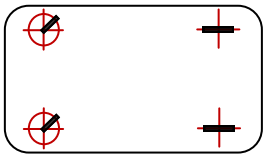

Single Bolthole - Limited to loads of up to 400kg. Designed to be mounted with a fastener through the centre of the swivel head. This style of castor can be expanders, solid steel stems, threaded stems, loose bolts etc.

Loadings - This is calculated from the gross weight of the load and equipment. Special allowance should be made in the event of uneven distribution of weight, this can result in one wheel / castors carrying more load than the rest. Mechanical towing can also contribute to severe shock loading.

Floor Conditions - Rough and uneven floors can also contribute to severe overloading. If one wheel / castor leaves the floor, the remaining castors have to absorb the load. Impact loads from use of kerbs and holes in flooring can also contribute to wheel and castor failures.

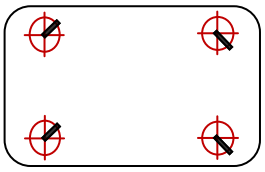
Castor Configurations

2 Swivel Castors and 2 Fixed Castors



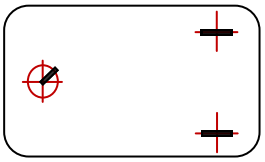
Providing good load capacity and manoeuvrability, this combination ensures accurate steering, even on long straight runs, making it the most practical combination for industrial use. Any trolley with this castor combination should be pushed with the fixed castors leading. Maximum capacity for each wheel = load/3

4 Swivel Castors



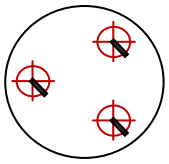
As this combination gives good load capacity with exceptional manoeuvrability, it is suitable for winding runs and where sideways action is required. It is not recommended for straight runs or ramps, as it may be hard to guide, especially over bumpy terrain and when heavily loaded. However, equipping two castors with directional locks makes this arrangement very versatile and suitable for long straight runs. Maximum capacity for each wheel = load/3

1 Swivel Castor and 2 Fixed Castors



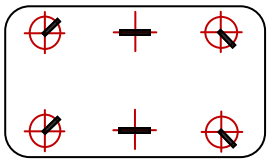
This combination provides an economical solution for lightly loaded trolleys requiring good manoeuvrability. The trolley must be reasonably small in size and load must be evenly distributed to ensure stability. Maximum capacity for each wheel = load/2.5

3 Swivel Castors



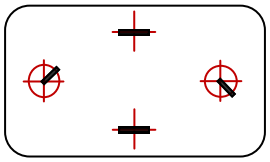
This provides good load capacity with excellent manoeuvrability. However, equipment with this arrangement will be difficult to guide on straight runs particularly over uneven ground. Maximum capacity for each wheel = load / 2.5

4 Swivel Castors and 2 Fixed Castors (centrally pivoting)



This combination provides an extremely high load capacity, with great manoeuvrability and stability. This is ideal for very long trolleys designed to carry heavy loads - the fixed castors can be replaced by wheels mounted onto a central axel. The unit's base must be robust and the swivel castors are mounted to allow the trolley to pivot on the central wheels. Therefore, 25mm of packing is required above the two fixed castors (wheels) to give alternating load support, depending on which pair of wheels is in contact with the floor. The entire load rests on 2 central, fixed castors / wheels. PLEASE NOTE: The swivel castors are subjected to shock loads if the trolley is tipped or the load is not evenly distributed. Maximum capacity for each wheel = load/2

2 Swivel Castors and 2 Fixed Castors



Ideal for confined spaces, this configuration provides good load capacity with excellent manoeuvrability. The fixed castor can be replaced by wheels which pivot the trolley centrally. In this case, 25mm of the packing is necessary above the two fixed castors (wheels) to give alternating load support. However, if the trolley is tipped or the load is not evenly distributed, the swivel castors are subjected to shock loads. The entire load rests on the 2 central, fixed castors / wheels. Maximum capacity for each wheel = load/2

ROLLTEK INTERNATIONAL

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WHEEL TYPES

Hard Tread Wheels - *the easiest to push as they have least tractive resistance. The main disadvantage is that they are noisy and can wear floors excessively. The main types of hard wheels are as follows..*

Cast Iron and Steel - combine shock resistance with long life and economy. Temperature range -40c to +300c

Nylon - has high load capacity, is light and clean and causes little floor damage. Temperature range -40c to +80c

Polypropylene - has good load capacity but not the abrasion or fracture resistance of nylon. Operational temperature range -20c to +80c

Phenolic - very hard, abrasion and fracture resistant but liable to wear and chipping. High operational temperature range up to +350c

Soft Tread Wheels *- are resilient generally resulting in less noise, marking and floor wear. Tractive resistance is however much higher. New development grades of polyurethane and rubber have increased load capacities while reducing tractive resistance. ..*

Solid Rubber - the basic wheel, although new thermoplastic grades are harder wearing and low cost. Temperature range -20c to +60c

Elastic Rubber - has a high load capacity and wear resistance with a smooth soft-cushioned ride. Temperature range -20c to +60c

Polyurethane - has a very high load capacity with abrasion, tear and chemical resistance and a soft ride. Temperature range -30c to +90c

Anti-static - Non-marking material. Has a high load capacity with abrasion, tear and chemical resistance and a soft ride. The wheels we supply have less than 10^4 ohm electric resistance. Each individual wheel is subjected to electrical testing. Temperature range -20^{o}c to +70^{o}c

Pneumatic - has excellent shock absorption working well on rough, uneven surface like gravel or grass. Temperature range -20^{o}c to +60^{o}c

Micro Cellular - this wheel behaves in a similar way to a pneumatic wheel, but has a micro cellular infill which allows the wheel to keeps its bounce without the risk of puncturing. Temperature range -20^{o}c to +60^{o}c

High Temperature - wheels now available with rubber tyres suitable for use in the temperature range -30^{o}c to +250^{o}c

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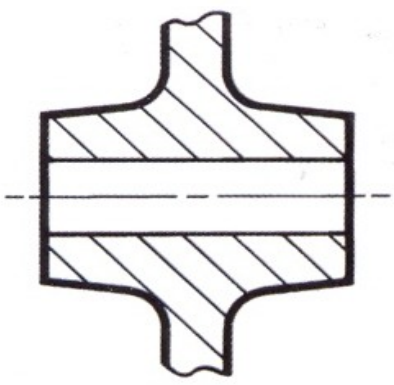
Wheel Bearings

The three types of wheel bearings used are shown below :

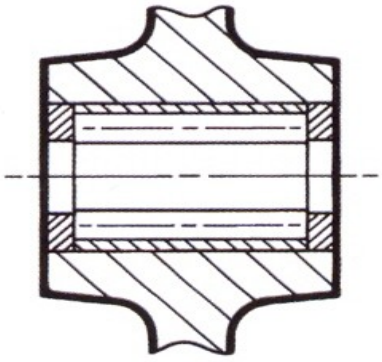
Plain Bore

Consists of an axel hole machined or moulded in the wheel centre. Usually of cast iron or nylon. Suitable for light loads or where low rolling friction is not important.



Roller Bearing

The most popular low cost easy movement bearing. Widely used to reduce the manual effort to move heavy loads .This type of bearing needs no adjustment on the axel.



Ball Bearing

Precision bearings with a spacer in between. Gives very low friction. Shielded to retain the grease and exclude the grit. Inner bearing races need to be clamped endwise on assembly.