SISTEMA PREMIUM

Storage Solutions
Shelving Division

1. ASSEMBLY SYSTEM

1.1. The Premium system is a light-duty metal shelving system consisting of angles and decks, designed for boltless assembly.

Premium angles detail

Premium decks detail

1.2. Assembly is performed by hooking the flanges of the angle into the holes of the deck corners.

1.3. The stability of the set is ensured by the rigidity provided by the angle-deck joint, **having four fixing points at each corner**. These four points brace the set in the two working directions.

4 anchor points detail

2. LOAD BEARING CAPACITIES

2.1. The Premium shelving supplied by AR Storage Solutions-Shelving Division is a hand loaded system.

2.2. There is no accepted standard in the market for this type of shelving to define its expected behaviour under load, but we have specified strict requirements for our products at AR:

- Maximum deflection supported is L/200 under nominal load (where L is the length of the deck). This means that, for example, a 900x400mm deck would show a maximum vertical deflection of 4.5 mm longitudinally at the centre when bearing the maximum load for which it was specified.

- The overload factor is 1.5. This means our decks can bear an overload equal to 50% of the nominal load without breaking. Thus avoiding negative effects on the system derived from potential extra forces by accidental impacts, incorrect handling of stored loads, etc.

2.3. Strength and rigidity of the shelving system depend on other factors, such as the profile geometry (defining its mechanical properties, e.g. area and moment of inertia) and steel quality (yield strength) with which it is formed. Optimization of a framework is achieved by properly combining geometry and steel quality. Both are critical for the final target, that is, the load it can bear.

2.4. In order to guarantee the load bearing capacity, we only work with cold rolled steel, obtained from a high-precision rolling mill. The yield strength and material thickness, basic characteristics of material to guarantee correct behaviour, have been defined and are checked for each product.

2.5. In all cases, the load is assumed to be uniformly distributed across the whole deck surface.

2.6. The load bearing capacities for the Premium system's decks have been tested both internally and externally.

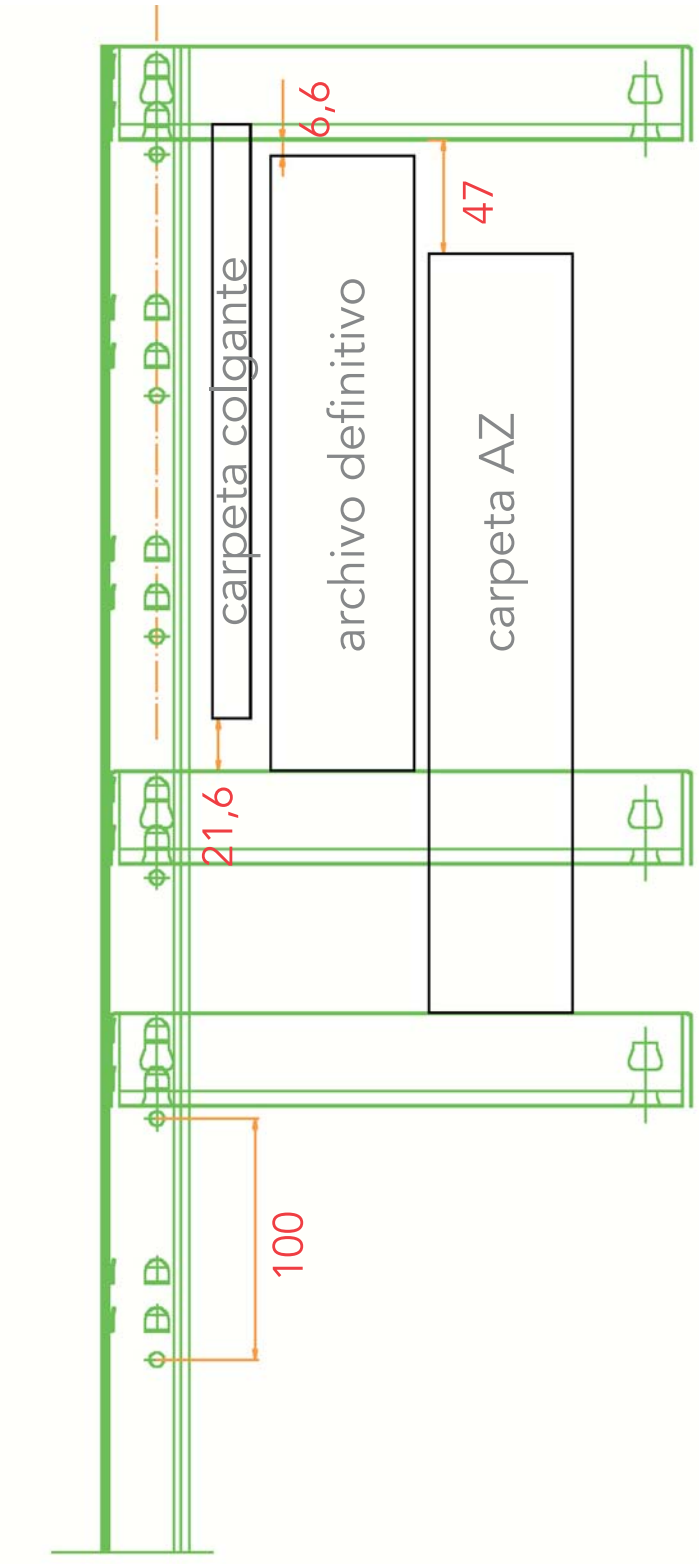
2.7. AR's Quality Management System meets the requirements of the ISO 9001:2008 Standard according to the certification issued by Lloyd´s Register Quality Assurance.

3. USES

3.1. Because of its design and finishings, the Premium system can be used for many applications: home, storage rooms, garages, file rooms, small warehouses, offices, etc.

3.2. Easily assembled, it can also be used in provisional warehouses, since it can be quickly assembled and disassembled.

3.3. The angle pitch (100 mm) has been optimized to maximize the available space either by using D-ring binders, hanging folders or storage boxes, thereby perfectly balancing pleasant aesthetics and adequate functionality.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3.4. The design of the deck also enables the use of hanging folders (350mm deep decks).

Hanging folder solution detail

3.5. Bays can be linked to one another to create runs by joining adjacent uprights through the uprights perforations using M5 bolts, or even using simple plastic clamps. They can also be linked to the wall by means of the upright perforations.

Joint detail with a 5mm bolt

4. ASSEMBLY TIPS

4.1. For assembly, we recommend to lay out two uprights on a horizontal surface (for example, the floor, on a base not damaging the painting) and fixing the decks individually at the desired position by hooking the angle flanges into the deck holes. At each deck corner, you must make sure the 4 angle flanges are hosted in the 4 deck holes.

Storage Solutions

4.2. Do not force the angle flanges in order to facilitate insertion, since it can affect the rigidity of the assembled shelving system.

4.3. Once all decks are placed and without lifting the bay, place the other two uprights adhering to the same considerations regarding the flanges. Then, place the plastic feet.

4.4. Finally, lift the whole set to place it vertically and check that the holes and angle flanges are fully fitted together, if necessary hitting the deck corners with a tool not damaging the product (for example, a rubber hammer).

4.5. We recommend that the framework is fastened to the wall by using appropriate anchors on the holes in the angles. Fixing to the wall must be performed as high as possible (above 2/3 of the bay height is recommended). You must make sure the wall strength can support the forces imposed by the shelving system.

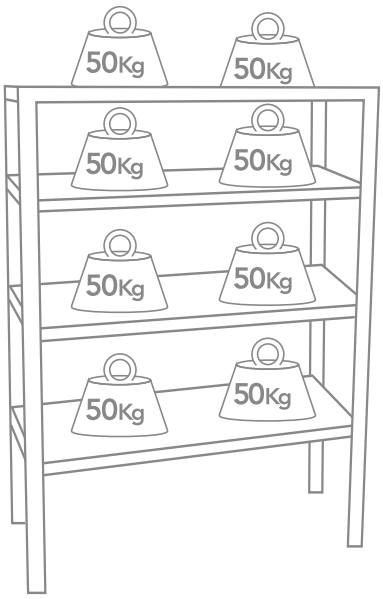
4.6. Before selecting the deck models to be used, we recommend to previously analyze the available space and the loads to be stored according to our load bearing capacities table. We recommend to cover most of the available area with long decks (for example, 1000 mm) and the remaining area with shorter decks to choose from the wide range available.

4.7. A safety recommendation is to place the heaviest loads on the lowest levels of the system to avoid the risk of falls from high levels.

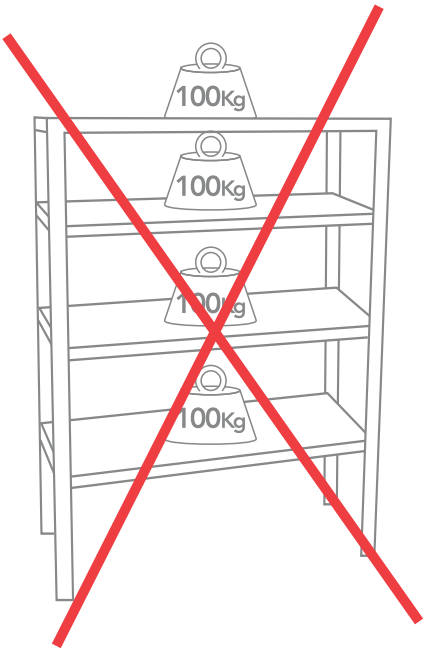
4.8. Avoid the following:

- Overloading the decks beyond the specified nominal load
- Impacting the loaded shelving system
- Loading only the upper levels, leaving the lower levels free

4.9. We recommend to distribute the load as uniformly as possible, avoiding concentration on a single spot. Stated loads are for uniform distribution across the whole surface of the deck. If the whole load is concentrated on a single spot in the middle of the deck, the load capacity is reduced approximately by half.



Uniformly distributed load



Incorrectly distributed load

4.10. Never climb on the system by stepping on the lower level decks as if it were a ladder. The deck can collapse and you risk falling off.

4.11. When using a ladder or other elements to access the highest levels, avoid resting it on the system to prevent unforeseen forces.

4.12. Whenever, as a consequence of handling and use, you detect permanent deformations in a deck or angle, unload the relevant deck or bay and replace the damaged elements with new ones. The amount of load capacity reduction for a deformated shelving system cannot be predicted and it might collapse.

4.13. You can always add decks to an assembled bay by placing the deck at the desired level.

4.14. We recommend to assemble the system on a correctly leveled floor (lack of maximum acceptable leveling in any direction of the floor: 1/350), in order to prevent falling of loads and undesired effects on the load distribution.

4.15. The Premium system is designed for indoor use.

4.16. We recommend to place the first level closest to the floor.

Deck placement at the lowest slot