

An improved method of manufacturing stacking shelves

Field of the invention

Stacking shelves are widely used in the retail sector, mainly as a structure to display merchandise in shop fronts. It has also become important to put up a display that is pleasing to the eyes because first impression counts. Towards this effort, manufacturers do often go over the moon to design display setups that are ecstatically pleasing. On most counts, merchants normally choose the cheapest for their shelves and indeed they are the most saleable. So manufacturers normally go for simple yet practical designs that form bulk of the demand. The cheapest stacking shelves consist of a long sheet of thin metal, coated with paint on both of its surfaces and backed on the under surface with a backing piece. The backing piece helps in giving the panel rigidity which would have to bear on the goods that are stacked on top of it. There are various ways to attach the backing piece onto the stacking shelves; one of the most common ways is to spot weld a strengthening piece behind. But where spot welding is used, the shelf panel will be uncoated because you can't spot weld coated areas. That is the normal method of manufacture but as everyone, and especially when you want to make it in large quantities, going the spot welding way is not very economical, even if you have robots to do it in an assembly line. So for the sake of reducing the manufacturing cost, new methods have to be attempted. This invention describes a better way to attach the backing piece to the stacking shelves and will make manufacturing much faster and cheaper to boot.

Summary of the invention

The invention will now be described with reference to the figures.

Brief description of the figures

Figure 1 is a perspective front view of a stacking shelf.

Figure 2 is a perspective view of the under surface of the stacking shelf.

With reference to both figures 1 and 2, we have a front panel surface (25) and an underneath surface (28). On the front surface (25) along the longitudinal axis and at the extremities are punched at least two small fastening holes (27). On the underneath surface (28) we can see that a backing piece (29), normally 'U' shaped in design with lips is attached to the stacking shelf by way of rivets or other suitable fasteners. The riveting process is helped by a corresponding series of fastening holes on the backing piece (29) which must be aligned to the fastening holes (27) on the front panel surface (25). In addition to the two fastening holes (27) mentioned, an additional at least one hole (30) is drilled onto the backing plate (29) along the centre position. Onto this centre hole (30) or holes is injected with a suitable adhesive polymer to weld together the underneath panel surface (28) with the backing piece (29). This is to give it extra rigidity and to prevent it from flexing. When the rivets or other suitable fasteners at the extremities are set, the whole piece of panel will exhibit a rigidity that is required of a showcase stacking shelf. Thus we can see that the invention makes manufacturing easier as the normal way of welding is done with. This is because welding, especially spot welding, can be very tedious and costly. In addition, where spot welding is practised, the panels must not be coated. And after spot welding is done, then the panel piece is then sent for coating. Compared to spot welding process, the present invention does not required a two stage process of first welding and thence sent for coating as they can use coated materials as a source, thus making manufacturing process easier and cheaper as well.

Claim

1. A stacking shelve having a front surface (25) and a back surface (28); wherein the front surface (25) is having more than two fastening holes (27) punched along its extremities; the back surface (28) having a backing piece (29) attached to it and secured by both fasteners and another suitable adhesive polymer; wherein the fastening holes (27) on the front surface is aligned to the fastening holes (27) on the backing piece such that the stacking shelve (25) and the backing piece (29) can be secured together by both fasteners and a suitable adhesive polymer filled through at least one centre hole (30).