

Cardboard

Research, Insights and Recommendations

Research

Cardboard furniture – a desk and chair – had been used in the segregation (seg) units previously to provide functional, inexpensive, disposable and recyclable furniture options. However, due to a fatal incident involving cardboard furniture, its production in prison industries was discontinued. The cardboard furniture, in its original iteration, was not treated to be fire retardant, under the pretext that in the seg prisoners did not have access to fire-starting materials.

Insights

Using cardboard offers an opportunity in the seg units to provide potentially violent and venerable inmates with furniture that cannot be weaponised or used as a ligature point. The softer cardboard material also gives peace of mind to prison officers, concerning attack. In the seg units there is much more destruction of furniture, meaning it is one of the most important parts of the prison service for the furniture to be recyclable and easily replaceable. Lastly, cardboard allows for easy customisation (e.g. you can easily draw or write on the surface) that can have a positive impact on the user's relationship to the furniture, which affords greater personalisation and, as a result, an increased sense of uniqueness and identity.

Cardboard Furniture Recommendations

At the time of writing, a specific cardboard material and supplier has not been approved or selected by the MoJ. DAC can recommend the company Antalis and their Xanita Print range of cardboard material. This product is free of VOC adhesives and comes in a variety of colours and surface laminations to add personalisation and customisation options to cell furniture. Antalis Xanita Print technical sheets below:

Antalis Xanita Print MSDS

In terms of fire treating the cardboard, we have identified a fire proofing spray called 'Flametect C', which is produced by Eco-Sol within the UK. This spray is a non-toxic, water based solution that could be used to treat the cardboard. Treated material tested by Eco-Sol has achieved B.S.5867 Part 2 Type B, which is in line with the prison guidelines. Intern, SiWai Wesley Lei, researched and tested this product with positive results that can be seen in his report below. Regardless of these informal tests, the treated cardboard (in sheet form and as final product) should be tested by HMPPS fire testing facility to confirm Eco-Sol's flammability tests. Also, a system for applying this or other fire retardants to cardboard has not been proposed. Systematically this proposal would work within the prison because Flametect C is water based, it would naturally be removed during the pulping stage of cardboard recycling. Flametect C technical sheets below:

Flametect C MSDS

DAC Intern Design Report



DAC Design Intern and BAPD (Hons) Graduate, SiWai Wesley Lei, researched, experimented, tested and designed with cardboard and fire-retardants.

His report on cardboard and fire-retardants can be found here:

'UP' Cardboard Furniture Report