Those companies who are actively involved in the supply of crumb, or those contemplating involvement, should be aware of some basic guidelines.

1. Crumb for UK domestic furniture (including garden furniture) is controlled by The Furniture and Furnishings (fire safety) Regulations 1988 SI 1988/No 1324. Regulation 6 (2) defines the ignitability requirements of foam in crumb form.

There are two requirements. Firstly, crumbed material must pass the ignitability test detailed in schedule 1 part II of the Regulations. Secondly, the feedstock foam from which the crumb derived must pass the ignitability test detailed in schedule 1, part 1.

It cannot be assumed that because all feedstock foam passes the schedule 1 part I (crib 5) ignitability test, the crumb will automatically pass the schedule 1 part II (Flame 2) ignitability test.

We strongly advise that manufacturers have copies of the statutory instrument and BS 5852: part 2 1982 edition which is referred to in part 1 and part II of schedule 1.

2. All crumb manufacturers should be in a position to demonstrate regular compliance of their material with schedule 1 part II. It is advisable to commission routine tests at recognised independent laboratories. The frequency of such tests will depend on whether regular in-house fire tests are also performed.

3. In any crumbing operation it is essential to have good segregation of feedstocks. A small quantity of standard polyether foam can easily cause fire test failures if accidentally mixed with combustion modified offcuts. Similar effects can be expected from other contaminants such as polythene and paper as well as dust, even from ignition resistant products (due to so-called “wicking effect”).

4. It is important to recognise that melamine- and graphite-based CM foams operate by different FR mechanisms. For many years it has been known that the two types of foam should not be mixed in furniture since their effects negate each other, i.e. both foams can then burn though they perform acceptably in isolation.

For the same reason it is imperative that crumb particles from melamine and graphite technologies are totally segregated.

5. Care should be taken to avoid lubricants and release agents in the area of cutting and crumbing machinery. Again it is known that these types of liquids and aerosols can impair fire performance.

6. The performance of crumb in flammability tests is somewhat dependent on packing density. UK 1988 Regulations state clearly that test specimens should be “stuffed to the density used in the Furniture as intended”, but give no detailed guidance on how to measure this. Fortunately, since the Regulations were published, most test houses have devised density measurement methods for crumb and are able to report this when certifying batches.

There is a clear recognition that if the packing density is too low, test failures can result. Experimental work within BPF has also shown that large crumb particles produce the best flammability results. On the other hand if the crumbling operation produces too much fine dust, failures can result at packing densities that would otherwise have been quite satisfactory (e.g. >40 kg/m³). It is sensible therefore for crumbing operations to be set up to provide maximum possible particle size (compatible with cushion filling operations) with minimum content of fine particles. It is also prudent to use such materials at the highest possible packing density.
It is important to realise that failure to meet the test requirements may lead to prosecution.

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