THE FFMA TESTING PROTOCOL

INTRODUCTION

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Brief Coffin History

1950's to 1990's

Coffins generally in the fifties up to the nineties were very traditional. There was not the variety nor was there the demand.
The Coffins were made from either solid timber or veneered chipboard. Generally, they remained similar in style and finish.

More choice in the 90's

Coffins started to change in the nineties. Painted Coffins, coffins depicting football teams and last Supper Coffins were provided to the Italian and Irish markets. Simple Cardboard coffins were introduced, along with more coffins coming in from overseas, as air travel and people living abroad rose in popularity.

Coffins in the 2000's

The trends continued into the 2000's. Picture Coffins were innovated, along with more elaborate cardboard coffins and eco friendly coffins.

Now anything goes, and the variety is endless. This leaves us with a crowded market, with often a capacity for more coffins than funerals being produced. So it's hardly surprising companies innovate further designs to meet consumer demand and attract new custom.

Coffin Testing - are the coffins fit for purpose?

It is extremely important that all Coffins are fit for purpose.

The FFMA and the majority of it's members agree that;
- They need to be safe to carry and load
- They need to be combustible
- They need to render a complaint amount of Ash Volume

Whilst the vast majority of Coffins are suitable, some have been deemed not fit for purpose. There have been a few incidents. For example; An Eco coffin fell apart during a Funeral, and Cardboard Coffins have caught fire prior to being placed into a cremation chamber!
In terms of Health and Safety these situations are not acceptable and action is required.

The FFMA Testing Protocol

To improve 'coffin safety', the FFMA testing protocol has been designed and developed by the FFMA Working Party.

In partnership with Intertek

In consultation with experts and stakeholders including :
ICCM - Tim Morris
FBCA - Rick Powell
ACCP - Richard Barradell

THE ISSUE - The Crematoria Associations approached the FFMA with the issues and the incidents that had occurred. The FFMA could not respond, as their guidelines only covered traditional coffins.

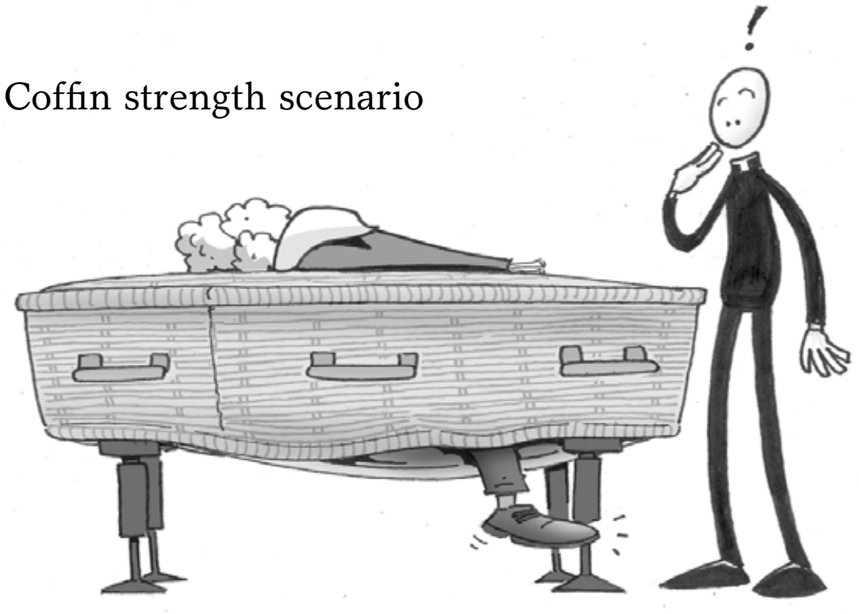
THE RESPONSE - The FFMA reacted to these issues and formed a group of people who could offer the right help and guidance. From this, a Working Party was formed who would meet and consult with representatives from the cremation sector.

THE DECISION - This party quickly decided that a testing protocol was needed, and the initiative should be owned and run by the FFMA. The FFMA understood the tests should be independent. They then partnered with Intertek, a well established testing company with a sound and reliable reputation who would assist with the mission.

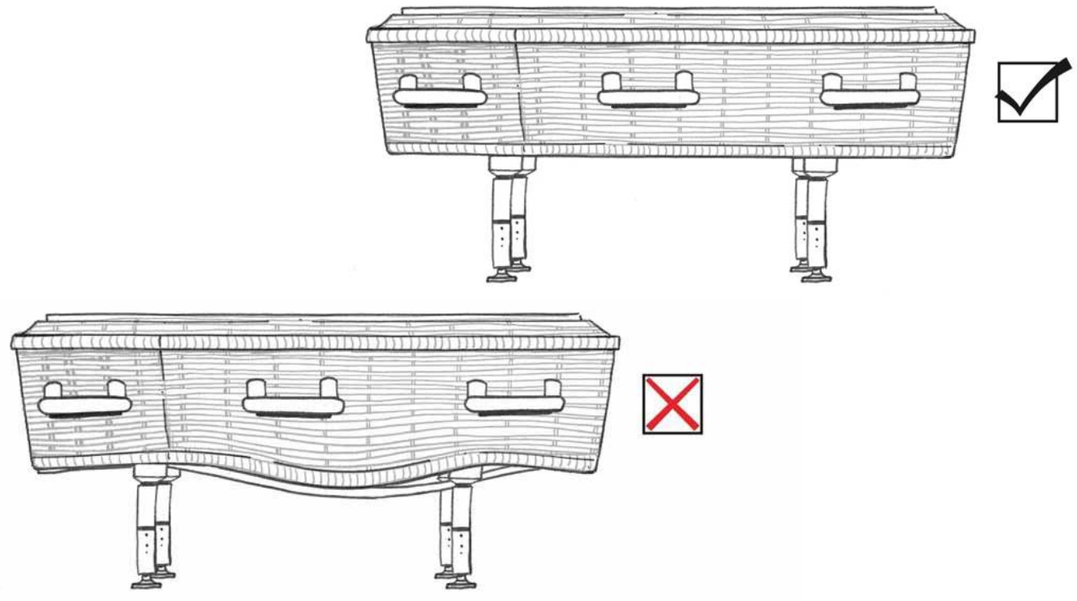
After consultation with the cremation sector, nine tests were agreed by all. These tests have been devised to show the coffin is suitable for cremation. The nine tests scenarios are illustrated as follows;

TEST 1

The Issue - Coffin strength scenario



The Test - Coffin strength is tested with trestles and weights

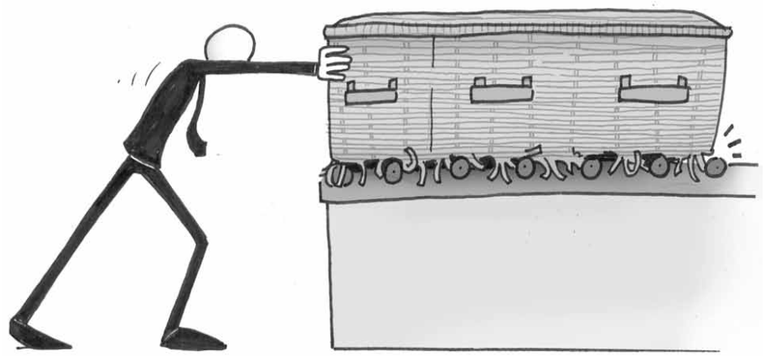


Intertek

Test this by loading the coffin with a specified load, then they check for deformation or failure. If the coffin remains within the agreed parameters it passes.

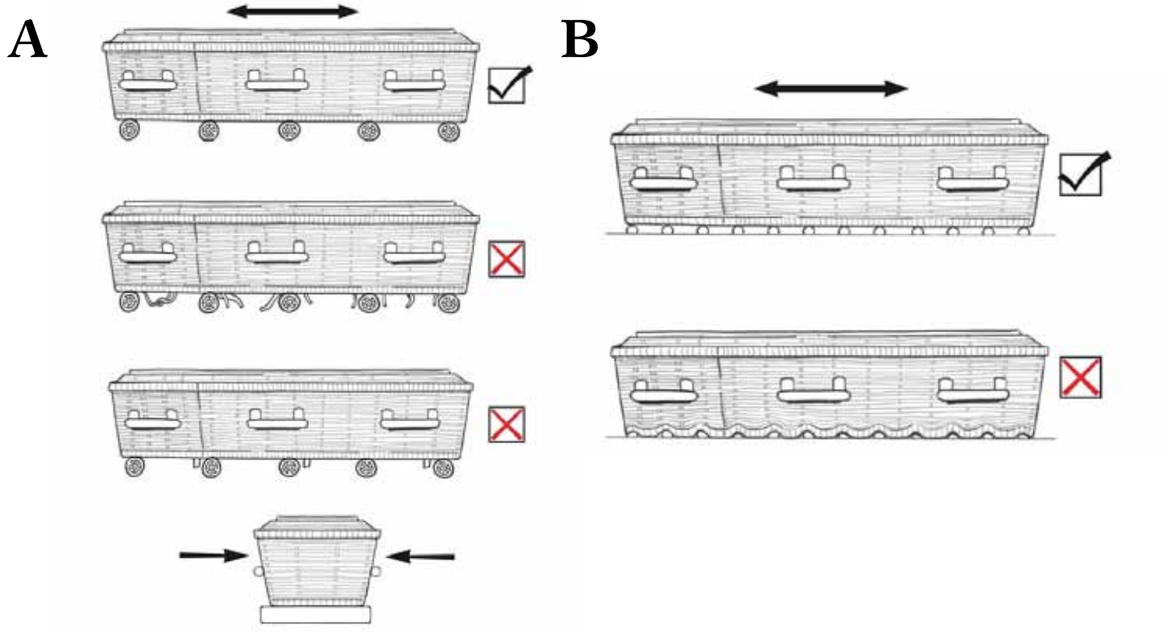
TEST 2

The Issue - Slip functionality scenario



The Tests -

A) Roller Bearing bed functionality - Test for slip and drag
B) Ball bearing bed functionality.

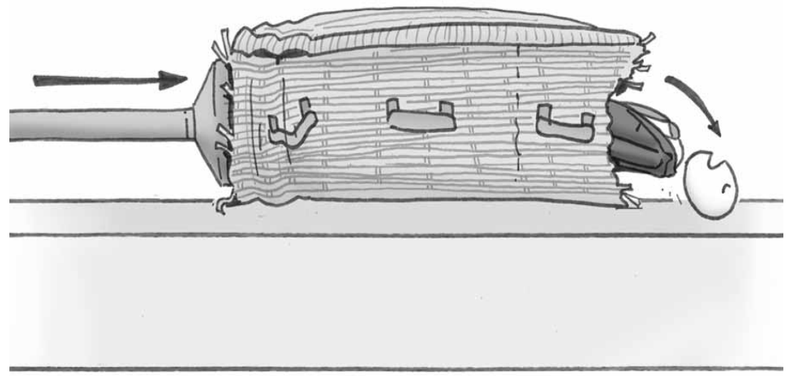


A) Intertek test by placing the coffin on rollers to see if it moves freely without any snagging.
B) The same procedure but on roller bearings.

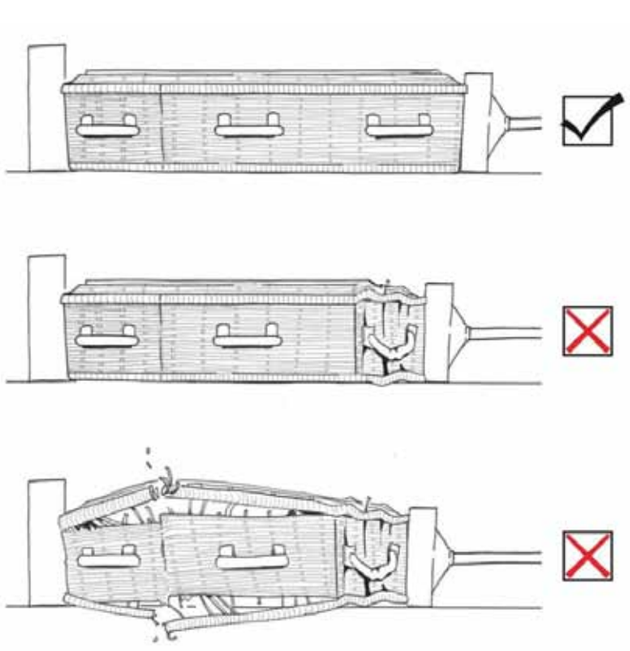
If the coffin snags or sticks it fails.

TEST 3

The Issue - Auto charger scenario



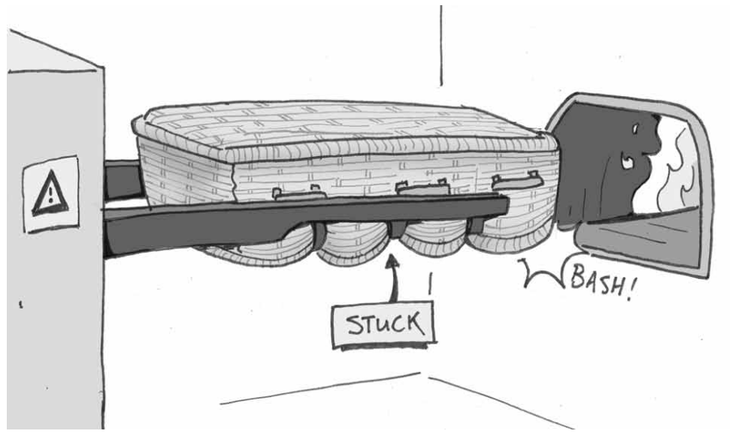
The Test - Tested by loading the coffin at the end until distortion or destruction,



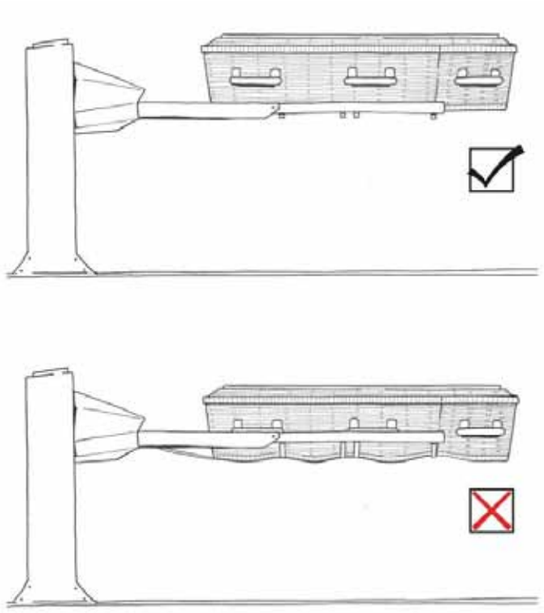
To simulate the auto charger, the coffin is placed against a solid load and pressure is applied to the end of the coffin with various loads. If the coffin distorts or breaks beyond the agreed tolerance it fails.

TEST 4

The Issue - TABO - Mechanical Insertion Machine



The Test - The coffin is tested by loading onto equipment to simulate a TABO charger



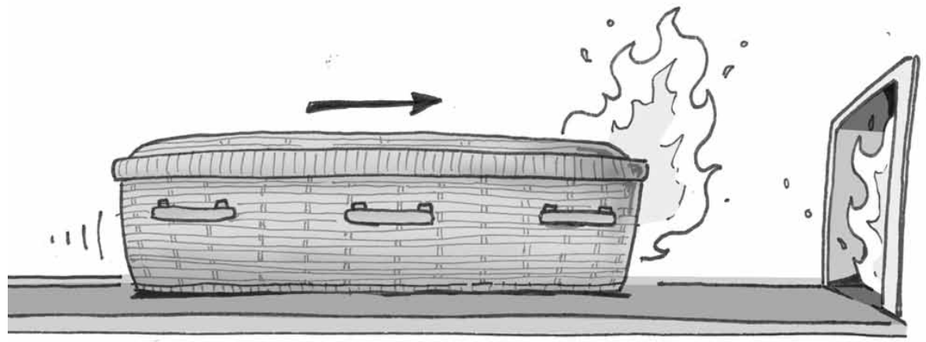
The TABO charger only exists in a dozen or so crematoria, but none the less, suppliers understand that once the coffin is sold, they don't know where it is going to ends up.

Intertek

On equipment to replicate the TABO charger, check the coffins performance. If it snags or sags on loading pins, it fails.

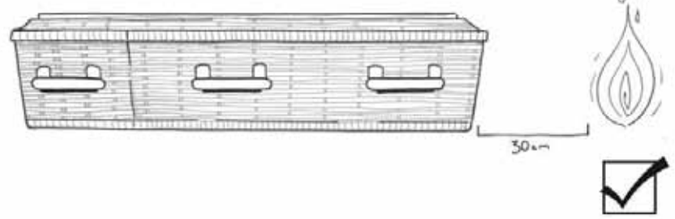
TEST 5

The Issue - Ignition/radiant heat scenario

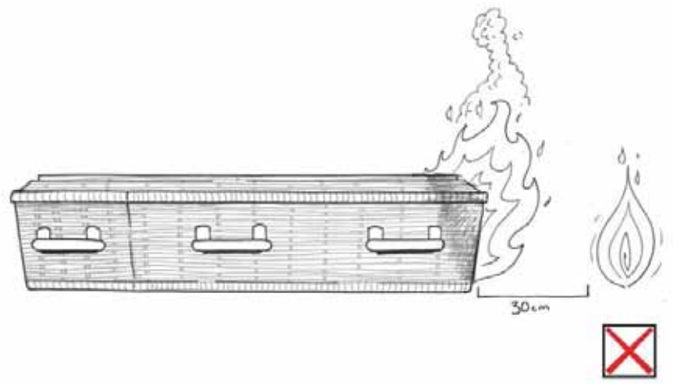


The Test - A sample of the coffin is tested by subjecting it to a variation of temperatures to simulate the cremator when the access doors to the chamber is opened.

550 °C



550 °C



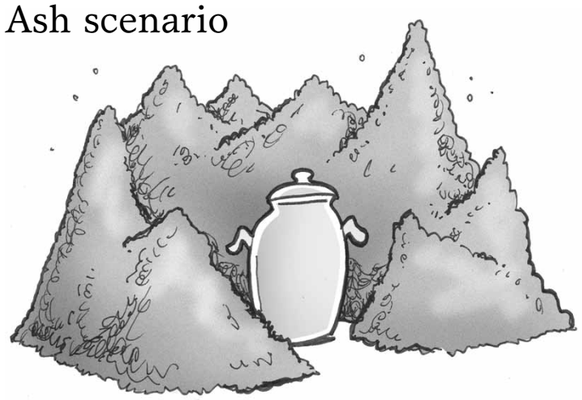
When the Coffin is presented for cremation, the cremator door opens and it's exposed to very high temperatures. The Coffin cannot catch fire until it is securely in the cremation chamber.

Intertek

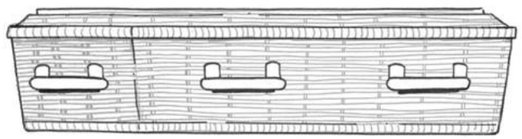
Test sample material. They expose the sample to the heat source for a given length of time and temperature. If it catches fire, it fails

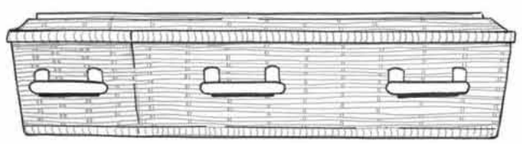
TEST 6

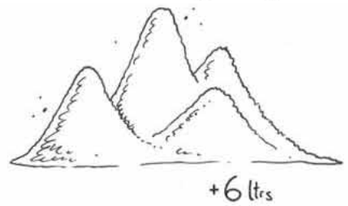
The Issue - High volume of Ash scenario



The Test - We measure the Ash volume, taking into account the size/style of the coffin and size of the person.







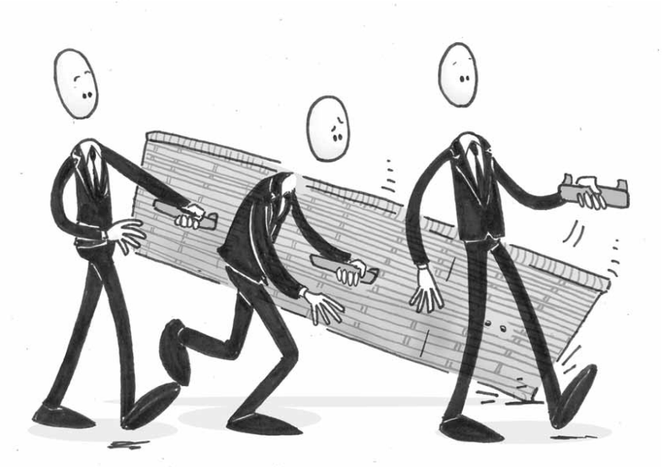
Intertek

Take representative of coffin and burn back to Ash. By calculation, knowing the type and size of coffin and the size of the person, they can predict the size of the ash volume generated

Following investigations the FFMA has been able to offer guidance.
The standard urn is to be of a size to receive 4.6 litres of ash, and a larger ash casket up to 6 litres should be available for bariatrics cases, and for styles of coffins that give more ash.
If the material is submitted on calculation gives in excess of 6 litre, then it would be a fail. See appendix 1 for further details.

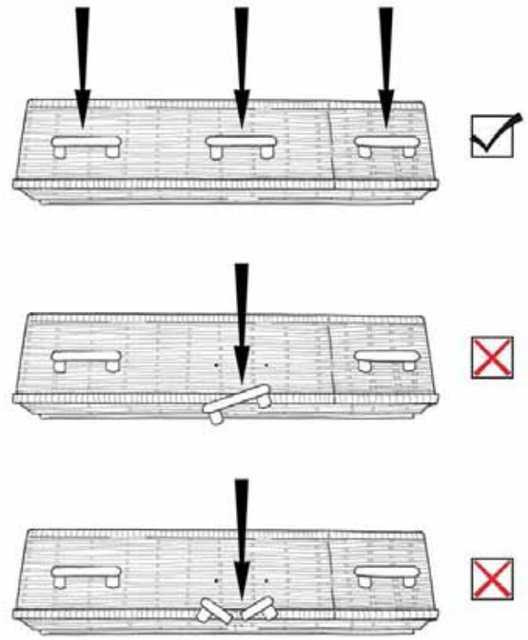
TEST 7

The Issue - Handle breakage scenario



The Test - We load handles to check for strength

30-50 KG



Some Coffins claim their handles are suitable for carrying. Those that do need to be independently tested to ensure an overall standard.

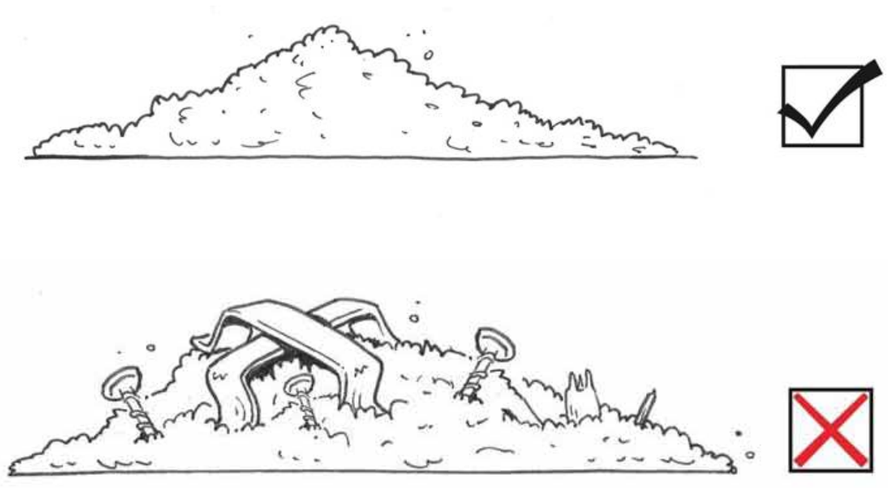
Intertek

Load the handle with the agreed weight. If it breaks or deforms beyond the agreed parameter, then it would be a fail

TEST 8

The Issue - Ash Residue scenario

The Test - Coffin samples are fully burnt to check the material is for combustible and the Ash is manageable.

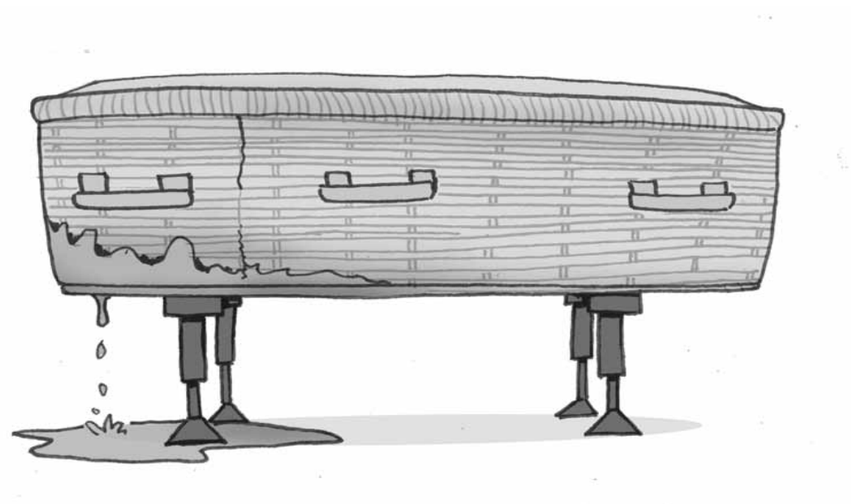


Intertek

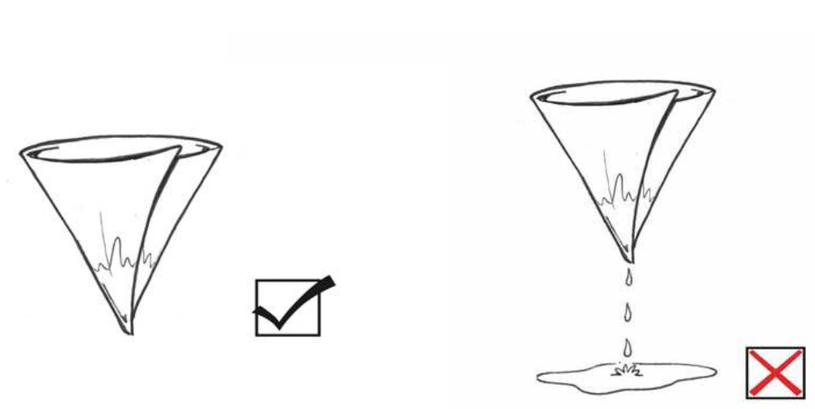
Take a sample of the coffin material and test burn on a ceramic surface. If the ash is not free from residue or anything that may cause an issue, it is a fail.

TEST 9

The Issue - Coffin Leakage scenario



The Test - A sample of the coffin lining is used to prevent leakage is tested to ensure it's capability.



Intertek

Take sample of material folding this into a cone and filling it with a solution to replicate bodily fluids. If it leaks, it fails.

How do I know a Coffin or Casket has been tested by the FFMA?

If the coffin passes the nine tests then Intertek inform the FFMA.
The FFMA then issues a license to the supplier company, so they can use the pass status FFMA trademark logo.
Look for the FFMA trademarked quality logo on the base of the Coffin or Casket. The pass contains the company and product ID which is unique to you.

FFMA™
Funeral Furnishing Manufacturer's Association
Company ID 5677 Product ID C67

Interim Stages

We understand there are a lot of stock coffins and caskets within the supply chain. These will be labelled with a similar trademark but this will be coloured red and not contain the product ID.

FFMA™
Funeral Furnishing Manufacturer's Association
Company ID 5677

WWW.FFMA.CO.UK

Go online to subscribe to get access to:

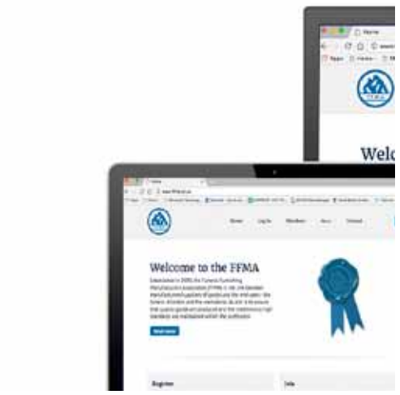
1. Manufacturers guidance for each passed product.

2. A summary of the testing protocol (designed for staff training).

3. Industry guidance and other recommendations.

4. Ability to raise concerns with the FFMA about all members products.

Subscription Fee - £50.00 Per annum.



APPENDIX 1 -
FFMA Ash recommendation guidance

Guidance
Following a comprehensive review and testing of many types of coffin, this advice and guidance is offered to Funeral Operatives who have responsibility for the care of cremated ash.

Background

* All ashes from coffin and the deceased are currently recovered and returned to family / funeral director.

* The types of materials used in the manufacture of coffin and caskets have changed, given the trend towards more personalised funerals.

* It is generally accepted that people are larger and require larger coffins and caskets than those made in the past.

* A number of Ash Caskets are used and, again like coffins and caskets, these are becoming more varied. Many new decorative types are available, made from differing materials and being offered in a variety of shapes and sizes.

* The Cremation Sector has undertaken this review in conjunction with the FFMA as part of a wider Coffin and Casket testing initiative. Using the services of a quality and UKAS-accredited Testing House, the FFMA membership has submitted all the different types of coffins and caskets for testing. This data has been collated. (Ash Residue test).

* The following guidance is offered and takes into consideration the size of coffin and casket and the material used to make the coffin / casket. Using this data, we have estimated the amount of residual ash and therefore the required size of ash casket needed.

Recommendations
1) Ash Caskets already exist in the marketplace between 3.2 litres and 4.6 Litres these can be used with consideration to the size of coffin / person been cremated, the coffin size and the material the coffin has been made from.
Avoid these sizes when the coffin / casket is larger or made for a material which is known to give more ash when compared to wood types.

2) The trade norm will be uplifted to be 4.6 litres. For reference, this is the size of the "Polytainer". It is anticipated smaller sizes will disappear from the market as demand falls and stocks are used up.

3) Larger ash caskets i.e. > 4.6 litres but < 6 litres are available in the supply chain. These should be considered in a variety of circumstances. In summary, these are generally for coffins made from woven materials and larger coffin / caskets. For details please see below.

Funeral Furnishings Manufacturing Association Ash Volume Recommendations

There are many different sizes and types of ash containers and caskets. It is important to know the volumetric capacity. The manufacture will be able to supply you with these specifications.

Volumetric conversions

1 Litre = 1000 Cubic CM
1 Litre = 61.0237 Cubic Inch
1 Cubic Inch = 16.3871 Cubic CM
1 Cubic Inch = 0.0163871 Litre
1 Cubic CM = 0.0610237 Cubic Inch
1 Cubic CM = 0.001 Litre

Litre	Cubic Inch	Cubic CM
3.2	195.27584	3200
4.67	284.98067	4670
5	305.1185	5000
5.5	335.6485	5500
6	366.1422	6000

The FFMA Ash calculator has been designed to help operatives and funeral directors predict the volume ash you may receive back after cremation. For instance the data is useful to ensure the ash will fit into the desired ash container given the large variation of product designs (size) presently available on the market.
The measurement stated is slightly overstated so if a product is matched exactly in size the container will should never be filled full to capacity.
Also often it is desirable to use a liner or ash bag, this may reduce the capacity of the vessel.

Solid Casket - up to 4'9"
Cardboard Coffin - up to 5'2"
Chipboard Coffin - up to 5'2"
Oak Coffin - up to 5'2"
Pine Coffin - up to 5'2"
Sea Grass Coffin - up to 5'2"
Willow Coffin - up to 4'9"
Woollen / Card Coffin * - up to 4'9"

Banana / Wood * - up to maximum manufacturing size of 6'3"
Solid Casket - Bariatric Cases up to 7'2"
Chipboard Casket - up to 6'8"
Chipboard Coffin - Bariatric Cases up to 7'2"
Oak Coffin - Bariatric Cases up to 7'2"
Picture Wooden MDF Coffin - up to 7'2"
Willow Coffin - up to 7'2"
Woollen / Card Coffin * - Bariatric Cases up to 7'2"

Bamboo / Wood * - up to maximum manufacturing size of 6'3"
Banana / Wood Coffin * - up to 5'2"
Solid Casket - up to 6'5"
Chipboard Casket - up to 6'2"
Cardboard Coffin- up to 6'8"
Chipboard Coffin - up to 6'5"
Oak Coffin - up to 6'5"
Pine Coffin - up to 6'8"
Picture Wooden MDF Coffin - up to 6'2"
Sea Grass Coffin - up to 6'5"
Willow Coffin - up to 6'5"
Woollen / Card Coffin * - up to 6'5"

Banana / Wood Coffin * - up to 5'9"
Solid Casket - up to 6'8"
Chipboard Casket - up to 6'5"
Cardboard Coffin - Bariatric Cases up to 7'2"
Chipboard Coffin - up to 6'8"
Oak Coffin - up to 6'8"
Pine Coffin - Bariatric Cases up to 7'2"
Picture Wooden MDF Coffin - up to 6'5"
Sea Grass Coffin - up to maximum manufacturing size of 6'8"
Willow Coffin - up to 6'8"
Woollen / Card Coffin * - up to 6'8"

This guidance has been plotted on test data provided by the FFMA's research and testing house, Intertek. Based on the following data statements;

* 150KG (23.7st) body inside the coffin.
* The weight of the coffin materials.
* The ash volume of the coffin.
* The length of the coffin
* We have allowed 2% additional space
* The recommendations have been based on 100% ash recovery but we acknowledge the recovery rate changes depending on the type of equipment used in the process and the processing time.
* When Bariatric is stated we have allowed an extra 20% coffin ash to alllow for extra width on a 7'2" coffin.
* The minimum size in any of our recommendations will always contain the maximum.

** Coffins made from a mix of materials*

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APPENDIX 2 -
Frequently Asked Questions