

TFRGroup

ACTING RESPONSIBLY · WORKING SUSTAINABLY

MATTRESS RECYCLING NOW & THE FUTURE

Nick Oettinger

About Us

- TFR Group are the leading specialist mattress recycler in the UK. The company was set up to resolve this difficult waste stream
- Recycled over 1.6 Million mattresses to date
- Our Service is a sustainable alternative to landfill creating 19 different recyclate streams. 92% of which go back into UK manufacturing.



Automotive Felt



Carpet Underlay



Geo-Textiles



Acoustic Insulation



New Mattress Fillings

- Mattress recycling offers the creation of sustainable jobs. TFR Group now employs over 70 members of staff over 2 sites recycling over 9,000 units per week

The Scale of the Problem

- 7.5 Million Mattresses disposed of annually in the UK at current disposal rates which is enough to fill Wembley Stadium twice each year.
- 181 Million mattresses disposed of in UK, Europe and USA annually.
- Less than 4 Million mattresses currently recycled worldwide.

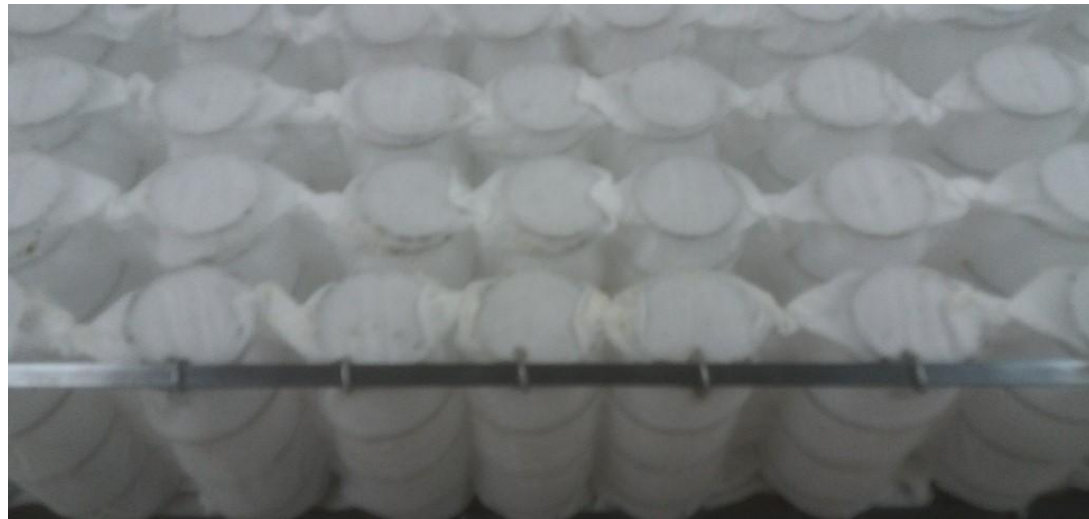


Is the problem going away?

- Average age of a disposed mattress is 12 years old
- Manufacturers, Bedding Associations & Retailers are advising consumers to replace their mattress after a maximum of 8 years
- Bed in a Box offerings are driving down the length of time a person keeps a mattress
- The result will be a significant increase in volumes sent to waste.

Mattress Recycling Now

- Recycling mattresses is expensive from the cost of collecting and hauling a bulky product & labour intensive dismantling which produces low value materials that are put into mattresses to begin with.
- Limited outlets for materials.
- Mattress & component design does not take into account the Circular Economy.



The Future is Circular Economy

- TFR Group works with leading retailers and manufacturers of mattresses and we are constantly pushing for a circular economy in mattresses where the constituent parts are available to go back into the very products they come out of.
- Our new consultancy, Circonomy, is an advisory service for manufacturers and retailers aimed at informing and educating decision makers in circular economy.
- Circular economy starts with design and we are founders of the Mattress Recycling Association with the NBF and TRA to try and promote best practice and to influence design to incorporate the needs of the end of life of the product.

TFR Group Interim Solution

- Reduce costs of transportation
- Reduce the cost per mattress of recycling
- Increase the efficiency of mattress dismantling
- Increase the value of the constituent parts of a mattress by secondary processing
- Our Aim is to automate mattress recycling to give the accuracy of segregation of materials and to reduce the cost of recycling which, in turn, will allow more mattresses to be diverted from landfill.

Mattress Compression

- Collection of mattresses is expensive.
- 80 mattresses per 40ft Artic
- We have designed a compression machine with patent pending that will compress mattresses for transport.
- The same 40ft artic will be able to move over 550 mattresses at a time.
- There is no damage caused to the mattress during compression so the mattresses can still be recycled at their final destination.
- Cost and huge CO2 savings.

Maximum 80 Mattresses/Load

64 Mattresses loaded into a
cassette. 12 cassettes/load.



Auto-Stripping

- Removing the insulator layer of the mattress takes 70% of the time of dismantling a mattress and is the most manual part of the job.
- We have designed and prototyped an insulator removal machine that will remove both sides of the mattress within a minute.
- This will vastly increase the capacity for mattress recycling in our facilities and reduce the cost of recycling making the decision to recycle a financially viable one.



Pocket Recycling

- Pocket springs are an example of design not looking at the end of life of the product.
- We have designed and patented the worlds first pocket recycling machine
- We are in talks with the worlds leading pocket spring manufacturer to enable these machines to be available worldwide



TFR Group Strategy

- Influence manufacturers and retailers to think of the end of life of the products during design through our relationships with customers and the Mattress Recycling Association
- Automation to allow expansion to increase the national availability and capacity of mattress recycling.
- International Partnerships to promote automated system which will not only increase the viability of mattress recycling worldwide but also start a new industry which could create over 50,000 sustainable jobs in UK, US & Europe.

Thank you and any Questions?

