

# The Seven Secrets Of Shredder Success

(or how not to shred your hard earned cash !)



A little free advice for potential purchasers of Heavy Duty Industrial Shredders.



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## Introduction

**We often get asked - "what really matters when buying a shredder ?" There are so many traps for the unwary when selecting a shredder for an industrial application.**

It is vital to ensure that the manufacturer of your shredder has the knowledge and experience to deliver a solution that performs as promised.

So how can you avoid the most common mistakes people make when selecting a heavy duty industrial shredder ? Well - hopefully our Top 7 Secrets (that are not so secret anymore !) will keep you away from bad decisions that will burn a hole in your pocket and drain your cash.

Many businesses end up with the wrong shredding solution because most people are unaware of how shredders work and have unrealistic expectations of what a shredder can achieve.

Engineering, design, materials, manufacturing, and experience all need to work in synergy to achieve a shredding solution that performs as promised, and continues to perform for many years to come.

How do we know all of this ? Brentwood have been building and maintaining shredders for over 30 years and we have learned a thing or two about what can go wrong when the incorrect shredder is selected.

Read through our Seven Secrets and benefit from our experience.

## **Shredder Secret #1: Size does Matter !**

**Don't be fooled into buying a shredder that just does not have the overall size or the cutting forces to shred your material.**

Make sure that you have 100% confidence in the ability of the shredder you buy to shred your material at the required rate.

A shredder that is underpowered and undersized will have a negative impact on your production and will quickly deteriorate, driving up your maintenance costs.

Some materials need high cutting forces to shred at an efficient rate. Using a shredder that is underpowered or just too small will result in more reversals (when the shredder overloads, and reverses to clear the blockage) which puts added strain on the shredder and leads to higher maintenance costs and possibly catastrophic failure (like a broken shaft).

It is also necessary to compare the overall weight of similar sized shredders. More weight equals more steel and more steel means a more robust machine.

At Brentwood, we test our customers materials to make sure that the shredder we recommend is matched to the material and the throughput.

We won't sell a shredder if it won't do the job.

## **Shredder Secret #2: Don't believe everything you see on YouTube.**

Always buy from a reputable manufacturer who can prove that their shredder can shred your material at the required rate for many years without falling to pieces.

**The internet is a great tool for promoting your product and like all manufacturers, we like to show off a little.**

You can find hundreds of videos of shredders doing amazing things but you need to be a little sceptical.

There are many companies promoting their equipment on the internet, often backed up by a video, showing shredders chewing their way through any number of large, tough items. Many of these company are reputable companies with excellent products, but beware, just because a shredder can chew an item once, does not mean it will do it day in day out.

Even small shredders can be made to chew seemingly large/tough items but the question you should ask is can the shredder do this continually and still remain in one piece? What wear and maintenance issues are there when shredding that product in that shredder ?

While it is true that seeing is believing, a carefully orchestrated shredding trial is no substitute for years of experience.

## **Shredder Secret #3: Off the shelf solutions can be expensive in the long run.**

At Brentwood, we carefully assess our customers materials and optimise the configuration of our shredders to ensure that our shredders are perfect for the job..

**Off the shelf can be tempting. Its available now, the price is right, looks like it will do the job....but, does an off the shelf solution take into account all the nuances of the materials you are trying to shred and your particular situation ?**

A shredder should be configured to provide the optimal shredding efficiency for the materials in the waste stream.

Some materials fracture and some materials tear/stretch. The type of cutter, the way the cutters are arranged, the shaft speeds, and the feed method are important factors in the efficiency of a shredder. You cannot expect a shredder set up to shred paper to also be able to shred tyres. These are two very different applications that require a different approach.

So it is important to clearly specify what you will be shredding and understand that some materials may not be suitable for shredding in the same unit.

Buying an off the shelf shredding solution might seem cost effective at the time, but without proper reference to your materials, it's a big risk and may end up costing you more as you try to compensate for the "not quite right" shredder that you have purchased.

## **Shredder Secret #4: Slower can be faster !**

**How you feed a shredder has a huge impact on its efficiency.**

Make sure that your in-feed system is matched to the materials and the shredder.

For some materials, dumping a full bin into the hopper is the perfect solution, but for other materials, this approach would cause the shredder to overload.

Shredders like to have material covering their cutters and in some cases the added weight of a full hopper aids the shredding process but for materials such as office documents, a burden depth just over the cutters is best.

It is important to match your shredder with a suitable in-feed solution to control the burden depth over the cutters. The impact of a shredder overloading and reversing can reduce the output of a processing line by 50% or more.

We have seen many instances when slowing down the in-feed stopped the shredder reversing, and doubled the production rate - so slower can be faster !

Brentwood designs and manufactures customised feeding solutions that can be integrated with the shredder controls to ensure optimal burden depth and shredding efficiency.

## **Shredder Secret #5: A stitch in time saves...big bucks !**

Make sure your shredder supplier has the facilities and the experience to properly maintain your shredder.

**Like any machine, shredders need maintenance and while it may seem unproductive to stop your process to perform routine maintenance, in the long run you will extend the life of your asset and reduce line stoppages.**

How much maintenance do you need ? That depends upon the material you are shredding.

For some materials such as light plastics, simple monthly inspections and lubrication is all that is required and the cutters will last for years without any intervention. For other materials such as tyres, additional cutter maintenance (hardfacing and dressing) is required at higher frequency intervals to offset the highly abrasive effect of the steel in the tyres.

When a shredder is regularly inspected and serviced, any issues can be detected and repairs planned before an unexpected line stoppage occurs. For each shredder we sell we provide a full maintenance checklist that if adhered to, will ensure a long, trouble free life for the shredder. We can also manage the maintenance for you and arrange to regularly inspect and maintain your shredder.

Always use technicians who are experienced in servicing and maintaining shredders.

## Shredder Secret #6: Cutters are King

**Get this wrong and you will be shredding your cash rather than your waste.**

Ensure that you have the right cutters for the job and that they are correctly configured to optimise your shredding

Single hook ,triple hook, offset, deep hook...the list goes on. There are so many different types of cutters for industrial shredders it is no wonder that we see so many incorrect cutter configurations.

The efficiency the throughput of a shredder is greatly impacted on by the cutter design. Different materials will require different types of cutters , and these will need to be arranged in particular ways on the shafts to ensure optimal grab and the highest efficiency.

Cutter materials is also a key factor in shredder success. Some shredders use inferior grades of steel that are too brittle or have limited core strength which results in premature wear and cutter breakage. Often these cutters are made from steel that cannot be hardfaced and this renders the cutter unreparable.

At Brentwood we use a nickel based alloy hardened to 60 Rockwell to construct our cutters. This gives our cutters superior core strength and better wear properties than other cutters. Our cutters are also repairable meaning that minor cutter repairs can be made in situ without the need to disassemble the machine. Our cutters can also be fully refurbished in our factory up to 3 times.

## **Shredder Secret #7: Power - you need more than you think !**

**Just because you have 3 phase power, does not mean that you have enough available current to start or run a shredder.**

Always sort out your power BEFORE you order your shredder.

The most powerful shredders require large amounts of current to start - up to 7 times their full load current ! Your power supply, and the transformers feeding your facility need to be able to cope with these high start-up currents.

You need to consider the size of the power feed to your facility, and take into account all of the other equipment in your facility that will also draw current.

Always get an electrician to confirm how much power you have available and ensure that the correct circuit breakers are fitted to cope with start-up currents (that's a "D" curve circuit breaker). Your local power authority may not permit you to start your shredder DOL (Direct on line) and may insist on reduced current starting methods.

Be careful - reduced current means reduced torque, and when starting a shredder, maximum torque is required to ensure it can free itself from any items caught in the cutting chamber. There are other starting methods available that help to minimise starting current while optimising torque and an experienced supplier will be able to advice on this.

## Shredder Secret #8: Experience Counts.

**It can be tempting to buy a cheap shredder from a distant supplier but consider what may happen when things don't go as planned.**

Invest in equipment that has local experience and quick access built in to the price.

What if your shredder was out of action for weeks while you tried to get someone on the line who understands your problems and can send you the parts that you need.

Suddenly that lower upfront cost has been eroded and you are left wondering what you will do when this happens again and how much will the next incident cost in both repairs and lost production.

Buying from a local manufacturer has an upside. Onsite advice, quick access to parts, in depth knowledge about your shredder are just a few benefits of siding with experienced local manufacturers.

Having the manufacturer assess your requirements on site and being able to visit the factory to see your shredder being manufactured all add up to a lower risk purchasing decision.

At Brentwood - we have pretty much seen it all and are able to offer our experience to our customers to ensure that their decision to buy locally, adds up to lower cost of ownership, and better performing assets.

## Conclusion

**So that's the top 7 secrets - well actually 8 - we just had to squeeze one more in.**

All common sense really.

But that's not all there is. There are many more factors that need to be considered when purchasing a shredder and only an experienced manufacturer can guide you towards the right shredder for your application.

Before you pour your money into a new shredder, take the time to make one more call to our experienced team here at Brentwood Recycling Systems.

The call will cost you next to nothing, but may save you from the anguish of installing a piece of equipment that not only does not do what you want, but cost you money in lost production and repairs.

**Talk to Brentwood - we make shredders.**

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