MT135 Spattershield System Costs Down Guide.

- **Mig Welding Spatter has long been thought of as an annoying by-product of the Mig Welding Process, and one which must be endured.**

- **You don't have to live with it anymore it can be controlled and sustainable improvements to the "Bottom Line" achieved.**

- **Can you afford to lose £500-£900 a year of Profit per welding head?**

- **Welding Torch Management the choice and cost control of.**

- **Spatter Control Management, an insight to the improvements that can be achieved.**

- **Manual Torch Equipment.**

- **Automatic Torch Equipment.**

Mig Welding Spatter

Regardless of how good a Mig Welding power source is, Spatter is a fact of life that many users accept as being a downside to this process that they have to live with.
Many people never even bother to analyse exactly how much this bi-product is actually costing them.

As industry faces a downturn in orders companies are chasing fewer contracts, the inevitable result is lower prices, and the net return to the bottom line being eroded.

Therefore it is essential that every avenue of cost reduction and product improvement is sought and analysed.

Study

This study has been written in terminology which all engineering levels of staff will be able to gain benefit from. An informed choice and knowledge of components used in the Mig Welding Process will then make the production process more efficient, resulting in an improvement to the "bottom line"

The vital area much abused is the torch," front end" consumables and the control of spatter generated by this process, long thought of as just a fact of life. In the following text we will show the improvements that can be achieved in both these areas, and the net result and effects on production levels and profitability.

Introducing the MT135 Spatter Shield System

The following sections will give the reader an insight to what may be achieved; **the million-dollar question is where, and how**?
In the initial research and development of this unique product engineering companies were involved on two levels. Manual welding and Automatic systems were selected in order to give a balanced view as to the effectiveness of the product, and the benefits that can be achieved.

Production costs

Two different methods of costing approaches are adopted. Format one is the associated costs involved with large highly mechanised factories. The second format, shows what the average small to medium fabricator, can expect to achieve.

Example of Format 1. In this format three costs are going to be used to calculate the final figures, and are based around a cost per hour that a welding head has to achieve. Estimated in the cost are consumables, power, shielding gas, and deprecation of capital plant, management overhead charge etc.

I have used three costs as some manufacturers will have a larger overhead than others, and represent a realistic cost of production. They are £20-£25-£30 per hour and are based on an industry ***Arc on Time of between 30-50%.***

Saving

Working on **an 8-hour shift pattern**, ***downtime can be reduced with the MT135 Spatter Shield System by a minimum of 10 minutes per day per welding head.***

Which equates to 38.33 hours per year per welding head.

How Can We Achieve This?

To give you an idea of where the savings in time can be made, let's look at an automated system. How much time is lost during either a mechanical, or manual torch cleaning operation.

With the **MT135 Spatter Shield System** in operation and spatter adhesion under control, existing users have found that clean down times can been cut by, in some cases up to 50%.

By using the **MT135 Spatter Shield** customers are finding that consumable changes are dramatically cut by up to 60%, thus increasing the arc on time. This of course leads to reductions in consumable costs, and the reduced stock holding of expensive spare parts.

In the case of the manual welder, no longer does he have to scrape away at the solid spatter in the gas nozzle, just a quick wipe and the remaining residue falls off. Shorting out of the nozzle, due to build up in the gas nozzle and the resulting damage that is caused is greatly reduced, giving extended life to the "front end" consumables.

This short insight will enable the reader to look once again at an age-old problem of spatter, and to be able to make inroads into costs that were previously thought to be untouchable.

In the next section the figures that are shown is what can, and is being achieved by using this unique breakthrough in welding technology.

Robotic & Automated Systems with overhead costs above £20 per hour

Effects & Improvements to the Bottom Line Format 1

Taking the figure saved of 10 minutes a day, multiplied by the yearly total, we can now apply the improvements and investment costs.

Each **MT135 Spatter Shield System** holding 135ml is sufficient to weld with 450 kilos of welding wire at a cost of £15.00 per refill.

Cost Down

Formula applied: **Time saved x welding head x overhead cost = saving per year**

38.33 hours per welding head in a full working year x £20 = ***£766.66*** **saved yearly**
38.33 hours ---------- x £25 = ***£958.25*** **saved yearly**
38.33 hours ---------- x £30 = ***£1149.90*** **saved yearly**

MT135 Spatter Shield System Investment Cost

Initial installation @ £120.00
Replacement fluid @ £15.00 per 450 kilos of welding wire

Net Profit Return First Year

Formula applied; **Overhead x saving – investment = saving per year**

At £20 per hour cost x saving, minus investment = ***£631.66*** **per welding head**
At £25 per hour cost x saving, minus investment = ***£823.25*** **per welding head**
At £30 per hour cost x saving, minus investment = ***£1014.90*** **per welding head**

Average Fabricator with overhead costs below £20 per hour

Format 2

This second method of costing will lend itself more to manual welding rather than automation, and is based on an industry man hour true cost, plus all other the associated costs as described in format one, but more aimed at the smaller fabrication shops. All the same **MT135 Spatter Shield** cost and usage is applied as in format 1.

Man hour cost @ £7 per hour x 39 hours per week x 52 weeks = **£14,196.0**
National Insurance employers cost at 12.2% = **£1731.91**
Stakeholder Pension at 5% = **£709.80**
Management overhead charge/ materials/power etc. = **£14,000**

Total at £30,637.71

True cost per man hour x 52 weeks x 39 hours = 2028 hours per year Divide 2028 hours into £30,637.71 = **£15.10 per hour**

Per Hour Saving

Working on an 8-hour shift pattern and achieving a reduction in downtime of 10 minutes per day equals **38.33 hours per year.**

38.33 X £15.10 = £***578.78*** **per year saving per man.**

MT 135 Spatter Shield System Investment Cost

Initial installation @ £120.00
Replacement Fluid @ £15.00 per 450 kilos of welding wire

Net Profit Return Year One

At £578.78 saving minus initial investment @ £135.00, equals saving of £443.78 per man

Examples Shown

- Of the foregoing examples I have tried to highlight what can be achieved by small 3-4 man operations at £15 per hour costs, through too much larger multi- national companies at £30. With careful monitoring of the current welding methods much larger savings can also be achieved, by using the MT135 Spatter Shield System and applying a common sense approach

- In the subsequent sections we are going to discuss Mig Welding Torch Consumable Costs, Torch Selection, Maintenance Factors, Effects on Shielding Gas, and then in conclusion a final figure that is sometimes invisible, but it exists never the less, and is one that you ignore at your peril!

The question to be asked again at this point is **can you afford to lose between £500-£900 per year,** and what could you do with the extra **38.33 hours** now at your disposal?

Consumables

In this section of the study we are going to be looking at the costs involved in the running of, and maintenance required to keep a Mig Welding Torch at the peak of efficiency, and therefore delivering the required profit to the bottom line.

It is with somewhat amazement that most management that are questioned about the running costs of the "front end" know little, or can produce accurate data relating to this area.

What we are about to discuss is factual, and is additional source of revenue to the bottom line, and is to be ignored at your peril.

Component Parts of a Mig Welding Torch

Listed below are the most common parts involved in the make-up of the modern day torch. Of course there are exceptions to this as some manufacturers have their own particular way, of trying to enhance the guns performance, but for the sake of discussion these will suffice.

Gas welding nozzle.
Contact tip.
Gas diffuser
Tip holder
Swan neck
Handle
Trigger
Cable assembly
Liner
Euro connector

Costs & Savings.

The costs that are about to be discussed are taken at the bottom end of the buying spectrum, and come from a "copy" torch parts source. You can add your own particular buying data later.

By using the **MT135 Spatter Shield System** within an optimum setting, we expect to achieve a saving of at least **50%** on the usage of these parts.

Maintenance Factor

With any form of manufacture like it or not, **maintenance of equipment has to be done sooner or later.** As in the most cases it is done later for the simple reason that it **is a pure cost**, and can in some cases slow, or shut down the production line.

It matters not if you are a one-man band, or of a larger concern**, this is an area of pure cost, which needs to be analysed**

Cost of Maintenance Engineer

Engineer cost @ £7.0 per x 39hours x 52 weeks = £14,196 per year Nat
Insurance @ 12.2% = £1731.91 ……..
Stake Pension @ 5% = £709 80 ……..

Total Cost @ £16,637.71

It is now needed to work out how much time is spent by these individuals in the repair and maintenance of a mig gun. From discussions with various people, who carry out this work on a regular basis**, it can be safely assumed that at least 5% of his total time will be spent ensuring that the torches are at peak performance**. Taking the engineer's time of **5%,** which represents a cost of **£831.86 per anum**, and then, by using the MT135 Spatter Shield system we would expect to **reduce that cost by at least 30%.**

Therefore giving a further saving to the bottom line of **£249.56.**

Peak performance at the front end, will also ensure that the power source at the back, will be delivering the optimum welding arc characteristics.

Any welding arc is only as good as the Mig Welding Torch will allow it to be, and many systems suffer from poor quality parts, being used at the front end of the torch.

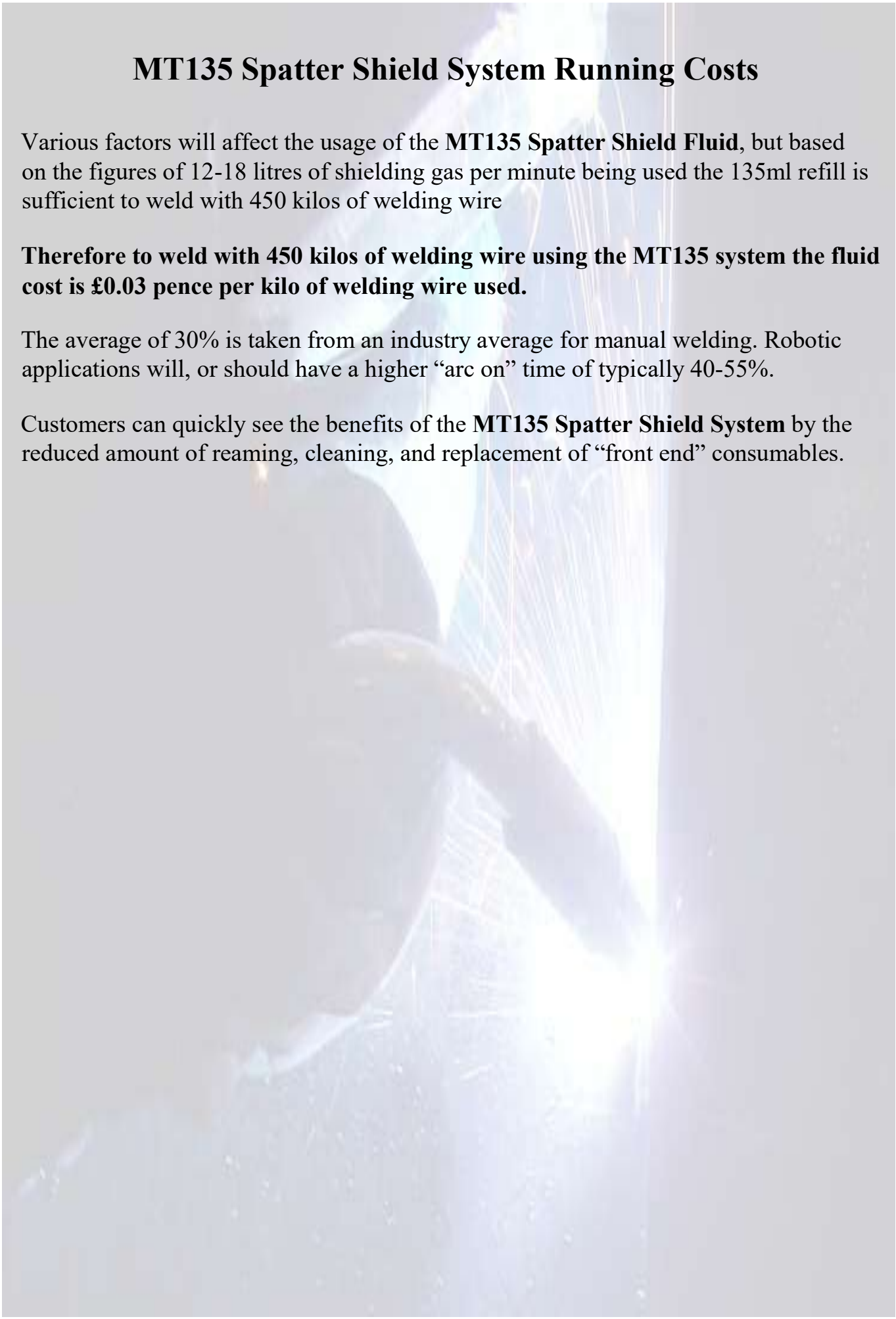
MT135 Spatter Shield System Running Costs

Various factors will affect the usage of the **MT135 Spatter Shield Fluid**, but based on the figures of 12-18 litres of shielding gas per minute being used the 135ml refill is sufficient to weld with 450 kilos of welding wire

Therefore to weld with 450 kilos of welding wire using the MT135 system the fluid cost is £0.03 pence per kilo of welding wire used.

The average of 30% is taken from an industry average for manual welding. Robotic applications will, or should have a higher “arc on” time of typically 40-55%.

Customers can quickly see the benefits of the **MT135 Spatter Shield System** by the reduced amount of reaming, cleaning, and replacement of “front end” consumables.



Summary of the MT135 Spatter Shield System

The management and control of welding spatter, its effects and costs have been described in this short but comprehensive study. The old thought process of it's just an annoying bi-product of Mig process, and it's one that has to be endured, can now viewed in a much more positive light.

The **MT135 Spatter Shield System** has completely changed and enhanced the production performance of many users, and will enable companies to deliver strong and sustainable savings to the bottom line.

The Changes Made page of this study describes the cost down reductions that can be made, both in man-hours, and consumable cost reduction, which both lead directly to the bottom line.

Testimonials as to the effectiveness of this product are available, and it would be appreciated that when you have achieved similar results, you could produce a short resume to that fact.

Finally there will be sceptics who doubt the validity of this study and it's something that we accept. However even for them, it's a worthwhile exercise **to analyse just what the true cost of their Mig Welding really is**. Be assured there are not many that can give accurate and comprehensive figures.

Can you?