



**ELIMINATE WASTE, CUT COSTS
AND IMPROVE PRODUCTIVITY WITH
FIRST OPERATION BLANKING**



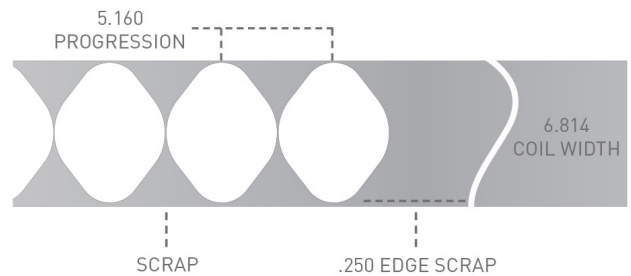
Can First Operation Blanking help your business eliminate waste, cut costs and improve productivity?

Do you run your material on small presses with insufficient bed size? Are your blanking speeds based on slower forming presses or other equipment? Maybe you are simply not aware of the potential material and labor savings of outsourcing your first operation blanking needs. You don't know what you don't know, right? This white paper will take you through the advantages and disadvantages of buying blanks versus producing them in your own operation. Outsourcing may reduce your gross weight, optimize your floor space, reduce your labor costs and decrease your freight expenses. This information will help you determine what is right for your business.

ADVANTAGES OF NESTING

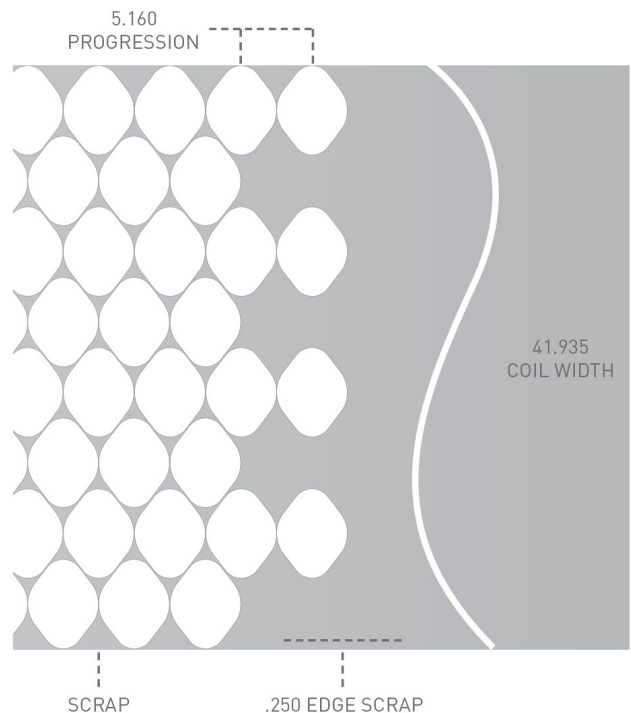
Are you familiar with nesting? Nesting in multiple-out dies is a terrific way to save on material. It is the placing of blanks closer together or "inside the scrap." This usually results in a great deal of material savings. Nesting not only reduces the gross weight per piece, it drastically improves efficiencies by blanking at master coil widths. If you don't have the equipment or space to nest a full coil, you should consider outsourcing blanking to save on material.

MANUFACTURER'S ORIGINAL LAYOUT (SLIT COIL):



SAMPLE: 1 - OUT CONFIGURED BLANK
MATERIAL: .115 X 6.814 X COIL
PROGRESSION: 5.160
PERIMETER OF BLANK: 17.201 IN.
NET WT OF BLANK: .730 LBS.
GROSS WT OF BLANK: 1.145 LBS.
YIELD: 63.77%

NEW LAYOUT UTILIZING MASTER COIL WIDTH:



SAMPLE: 8- OUT CONFIGURED BLANK
MATERIAL: .115 X 41.935 X COIL
PROGRESSION: 5.160
PERIMETER OF BLANK: 17.201 IN.
NET WT OF BLANK: .730 LBS.
GROSS WT OF BLANK: .881 LBS

Average material savings are typically between 7% to 8%

DRAMATIC SAVINGS OF FREIGHT, MATERIAL, TIME AND SPACE

By outsourcing blanks, you will have 100 percent usable material. Reduce your inventory by knowing the exact quantity ordered versus estimating the pieces produced from a coil. Just in Time (JIT) inventory management is easier to control with a known quantity of parts; you can eliminate the guesswork by having an exact piece count.

Another space-saving idea is that a press currently being used for blanking could be used for other value-added production. Also, floor space currently being utilized for scrap handling due to the blanking operation will now be open for other uses.

There are significant labor savings due to the elimination of coil changes when manufacturers purchase first operation blanks from an outside source versus producing internally. Blank-fed operations can run continuously while coil feeding can take up to 10-15 minutes per change-over.

Press operators at your facility will also save on the time spent inspecting blanks in your operation, as they should arrive already inspected.

Also, you can realize significant in-bound freight savings due to shipping only the net weight of a blank, instead paying to ship the scrap as well.

Here is an example of how you can calculate your savings. Using a 15-inch diameter blank at .150 gauge:

- This weighs out at 10.09 lbs. gross weight when produced as a one-out from a 15.5-inch wide coil
- The net weight of that same blank is 7.51 lbs.
- Your estimated volume is 500,000 blanks per year
- $500,000 \times 10.09 \text{ lbs.} = 5,045,000 \text{ lbs.}$ or approximately 126 truckloads per year if producing from a coil in-house
- Shipping only the blank at net weight is $500,000 \times 7.51 \text{ lbs.}$ or approximately 93 truckloads per year

This is a savings of 645 shipped tons of steel and approximately 33 truckloads per year. As you can see, your savings in material, space and time can really add up. Use the below calculator to estimate potential savings and relative Return on Investment.

RETURN ON INVESTMENT ESTIMATE

Gross Weight Savings

Current G.W. x number of blanks / yr
New G.W. (est. 7% less) x number of blanks / yr

Freight Savings

Current freight rate. x current G.W.
Current freight rate x net weight

Process Savings

Scrap handling time
Coil change-over-time

Cost of Labor

Increased Floor Space

Press Re-purposing

Less: Outside Processing Costs

TOTAL SAVINGS

Potential Investment

New blank tooling
Blank feeding equipment

Return on Investment

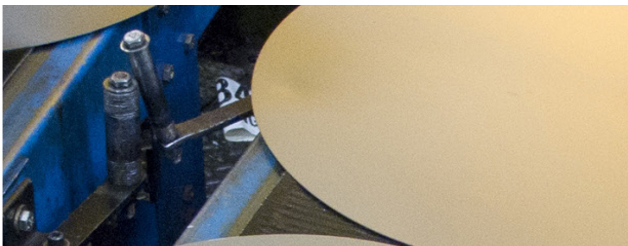
Savings divided by Investment

IN-HOUSE VERSUS OUTSOURCING FIRST OPERATION BLANKING

A key factor to consider is whether your in-house equipment can only handle small or narrow coils. If that is the case, the process leaves a lot of scrap with significant cost implications including:

- Scrap takes up valuable floor space and requires labor to handle it.
- Freight costs associated with shipping material that turns into scrap.
- Freight when you ship in the scrap

On the other hand, if you outsource first operation blanking you get 100% usable material so you aren't paying for steel you won't be using nor the freight to ship it. You are also able to reduce your inventory because you will know the exact quantities you have for production rather than estimating pieces produced from coil. JIT inventory management is easier to control because guesswork is eliminated.



The best way to know whether or not you should outsource blanking operations is to look at the steel tonnage you are currently purchasing per month and the freight associated with those shipments. Then compare these costs to what the weight would be if you received completed, ready-to-use blanks. In addition to freight cost, keep in mind when outsourcing your blanks, there are advantages to finding a processor that can pickle, slit and coat at their location. This would further reduce freight costs and improve your supply chain.

LOOK FOR SIGNS

There are signs to look for within your operation that indicate outsourcing First Operation Blanking would be extremely beneficial to your operation. Here are some of them:

- 1 There are various first operation blank baskets or tubs throughout the plant. This usually indicates that blanks are being done at one press and transferred to another operation. This results in inefficiency of labor and time.
- 2 If you use large blanks within your operation they are material intensive. The larger the part the greater the cost savings you could realize.
- 3 If you have high volume parts being produced as a one or two-out from narrow-width coils there is an opportunity for significant savings.
- 4 Parts that have a high ratio of gross to net weight could benefit from multiple-out blanking. The outcome could show significant performance improvement and cost savings.
- 5 If you are in the process of designing a new product, it is an ideal time to consider first operation blanking.

If any of the above signs are visible within your operation and you would like to receive additional information or have a discussion with a blanking expert, please contact us at SteelMarketing@WorthingtonIndustries.com