

Laser Welding for Ductwork

Recently US Duct invested in a laser welder for seam welding duct and tubing. The question you are probably asking is why and what does it do for me? And frankly that was the question we asked on your behalf prior to shelling out the money. I mean after all our product was already good, functioned well and everyone seems to be happy with it. So we really did ask ourselves- 'If it ain't broke why fix it?'

Actually there were some practical 'product' related reasons:

1. The laser weld will give us a rounder duct making the adjustable sleeve fit tighter, but actually the old 'fit' was pretty good.
2. The weld will be continuous to the end of the duct meaning that the notch in the rolled lip will disappear, but then that was never really a critical factor.
3. We will get a cleaner weld for our US Tubing product line. That is exciting, but that is only one part of our product line.
4. The process will be slightly faster- but not enough for the investment.

So what really was the impetus for the laser?

If the previous product was good enough and the weld only marginally better or faster, why spend all the money? In short because it is better and good enough is not good enough- not at US Duct.

So when you notice the continuously rolled lip with no notch, fit the sleeve over the round duct and see the new laser weld you need to remember that the reason behind it is the same mentality that



Laser Welding for Ductwork Continued...

developed US Tubing, invested in ductquote.com (online duct design and quoting program) to make things faster and more accurate for you, and keeps promises. We are US Duct - and that is all the reason we ever need to make things better.

Benefits of Laser Welding

Why Laser Welding? The laser weld offers you a variety of benefits:

- **Weld strength:** The welded area is stronger than the steel itself. The laser weld is narrow with an excellent depth-to-width ratio and higher strength.
- **Heat affected zone:** The heat affected zone is limited, and due to rapid cooling, the surrounding material is not annealed.
- **Metals:** Lasers successfully weld carbon steel, high strength steel, stainless steel as well as dissimilar materials without creating added bulk at the site of the weld.
- **Precision work:** The clean weld avoids the added bulk of a lock-seam or tig/mig welding and thus allows for easier cutting of the pipe for adjusting length while.
- **Deformation:** Parts have minimal deformity or shrink.
- **No contact:** No physical contact between the material and laser head.



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