

# FABRICATION WELDING



**Therser (UK) Ltd, Walley Street, Burslem, Stoke on Trent, Staffordshire, ST6 2AH, UK**

## How It Works

Our fabrication service is completely customer focused, encompassing the full process from concept to product testing, through to installation and after sales support. Commissioning custom-made fabrication work from Therser is fast and efficient. Our engineers use AutoCAD software to design your component, allowing regular communication with our customers prior to the manufacturing stage. Component designs can be tweaked and modified according to your requirements and put through rigorous virtual testing to ensure high performance.



## Standards

### The Advantage of BS.EN.ISO 9606-1 standard

All these welding methods can be employed in our work, but the most relevant technique is fusion welding, which is the area of competence covered by BS.EN.ISO 9606-1. This is a harmonised standard, meaning it complies with standards expected under BS, ISO and CEN rules. In other words, a kiln fusion welded under BS.EN.ISO 9606-1 criteria can safely be used anywhere in the world.



It takes high-quality workmanship to be able to weld to the rigorous standards of any ISO accreditation, including 9606-1. Any customers who want to know their welding processes – whether they are arc welds, laser welds, induction welds, oxyfuel or solid reactant welds – are being carried out by a fully accredited contractor should seek out a BS.EN.ISO 9606-1 compliant manufacturer.

## Heavy Fabrication

The heavy fabrication process involves a number of different steps, including design, material selection, cutting, welding, bending, and finishing. Each of these steps requires specialized equipment and skilled technicians to ensure that the final product meets the necessary specifications and quality standards.



One of the key advantages of heavy fabrication is its ability to produce structures that are both strong and durable. Because these structures are often exposed to extreme conditions, such as high winds, heavy rain, and corrosive materials, it is essential that they are able to withstand these forces and remain intact over time. Heavy fabrication techniques and materials are specifically designed to provide this level of strength and durability, making them an essential part of many construction and manufacturing projects.

## Fabrication Processes We can Offer

**Extrusion:** Extrusion is a process of forcing a material through a die to create a long, continuous shape with a constant cross section. The material can be metal, plastic, or rubber. Extrusion can be used to create products such as tubing, rods, and profiles.

**Sheet metal fabrication:** Sheet metal fabrication is a process of cutting, bending, and forming thin sheets of metal to create various products. Sheet metal can be cut using laser cutting, waterjet cutting, or shearing. Bending can be done using press brakes or roll forming. Forming can be done using punching or stamping.

**3D printing:** 3D printing is a process of creating objects by layering material using a 3D printer. The printer reads a digital file and creates the object by depositing material layer by layer. 3D printing can be used to create complex geometries, prototypes, and custom parts.

## Welding Types

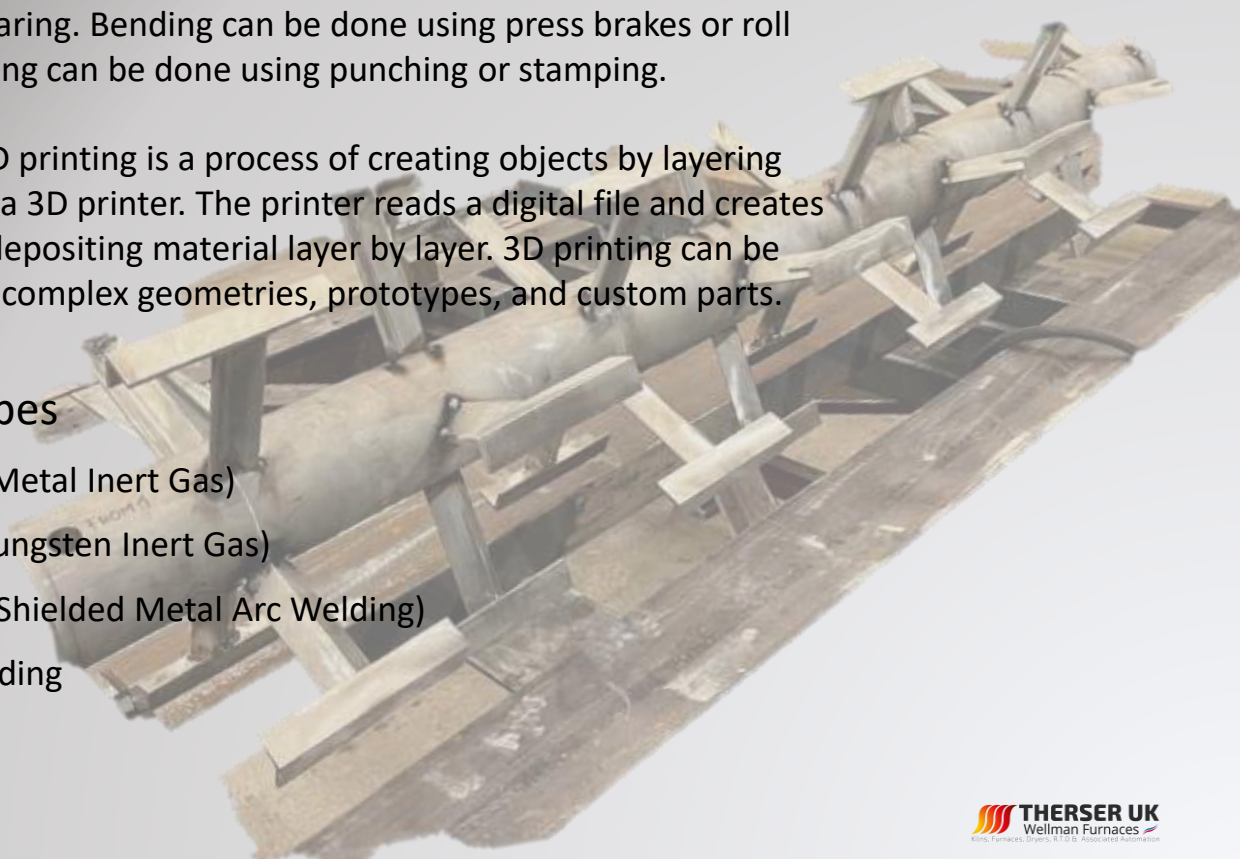
MIG welding (Metal Inert Gas)

TIG welding (Tungsten Inert Gas)

Stick welding (Shielded Metal Arc Welding)

Flux-cored welding

Gas welding



# What Jobs Therser Can Do. What Code And Processes Do We Adhere To

Heavy fabrication is the specialized creation of large, robust structures and components. This guide provides insights into the processes, testing, and considerations throughout heavy fabrication.

## Step 1: Planning and Design

- Understand project requirements.
- Collaborate on detailed designs.
- Select suitable materials.

## Step 2: Material Preparation

- Procure materials meeting standards.
- Inspect for integrity.
- Precisely cut materials.

## Step 3: Forming and Shaping

- Bend or curve plates and sections.
- Prepare components for welding.



#### Step 4: Welding and Assembly

- Accurately fit and align components.
- Utilize appropriate welding methods.
- Follow welding codes and standards.

#### Step 5: Surface Treatment and Finishing

- Achieve desired surface finish.
- Remove contaminants and apply protective coatings.

#### Step 6: Quality Inspection and Testing

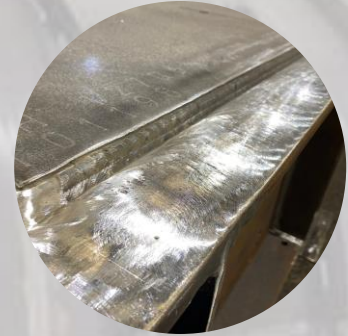
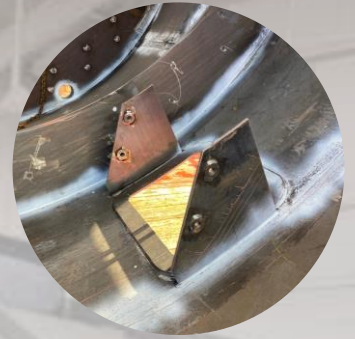
- Perform non-destructive testing.
- Verify dimensional accuracy.
- Conduct visual inspection.
- Assess weld quality.
- Use dye penetrant testing.
- Apply pressure and fatigue testing.
- Qualify welding procedures.
- Maintain comprehensive documentation.

#### Step 7: Transport, Installation, and Integration

- Safely package and transport.
- Ensure proper installation.
- Perform site integration and testing.



Heavy fabrication involves rigorous quality inspection and testing procedures to ensure the structural integrity, dimensional accuracy, and performance of the fabricated product. Along with non-destructive testing techniques and dimensional checks, visual inspection, weld quality assessment, hardness testing, and other specialized tests help verify the quality of the fabrication. Thorough documentation and traceability further ensure compliance with standards and provide a reference for future inspections or repairs. By implementing comprehensive quality checks and inspections, you can confidently deliver high-quality, reliable heavy fabrications that meet customer specifications and industry requirements.





## CONTACT US



Head Office: Walley Street, Burslem, Stoke on Trent, Staffordshire, ST6 2AH  
**Tel +44(0)1782 824453 email - sales@therseruk.com**

Therser Wellman Alloy & Furnace Division: Units 15 and 16, Hale  
Trading Estate, Lower Church Lane, Tipton, West Midlands, DY4 7PQ –  
**Tel +44(0)121 5222522 email -sales@therseruk.com**

