

## CE MARKING

### CE Marking Introduction

Placing the CE Mark on a product is a declaration that the product complies with the essential requirements of the relevant European Directives. The relevant Directives for most types of products are:

- The Machinery Directive
- The Low Voltage Directive
- The EMC Directive
- The Pressure Equipment Directive

These directives are primarily concerned with the health, safety, environmental protection issues and set out a minimum standard for all machinery placed on the market in the EU. CE Marking applies equally to one-off machine and mass produced machines.

### Why CE Mark?

CE Marking is a legal requirement. Failure to comply with the relevant directives/regulation may result in **fines or imprisonment**. Going through proper CE Marking process can improve the quality of your product, increase sales and allow you access to markets in **27 member countries**.

### European Standards

Using European standards in the design and manufacture of your product is not compulsory under the machinery directive. However where applicable standards exist it is advisable to obtain these standards and apply the relevant parts. If there is a harmonised product standard for your product, there may be a 'Presumption of conformity'.



If your product does not feature any pressure, electrical or electronic parts then it is likely only the Machinery Directive is applicable.

We can help you prepare the **necessary documentation** and **guide you through** the CE Marking process.

## CASE STUDY | CE MARKING

Project Engineering were engaged to assist Macfab Systems Ltd with CE Marking their 70 Tonne Compaction Force Horizontal Baler.

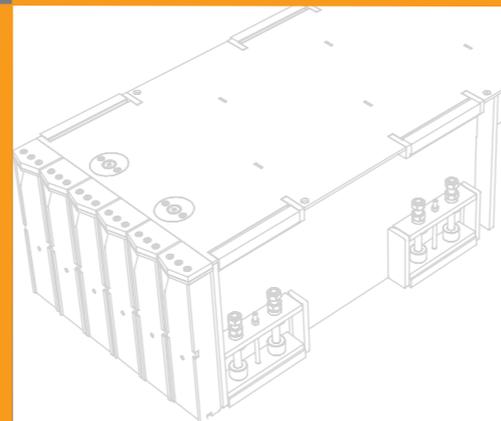


After visiting the factory and viewing an operational machine to gather information, we set about identifying the relevant EU Directives, Irish & European Standards.

A European Standards search revealed, that like many machines, there were no European Product Standards (*Type C Standards*) for the machine.

In the absence of a Product Standard we worked directly with the relevant European Directives and Fundamental Machinery Safety Standards.

Documentation is a large part of the CE Marking Process. We assisted our client in preparing the necessary documentation to satisfy the requirements of each directive. After the tests had been completed and the documentation required had been compiled into a Technical File, our client was in a position to issue a Declaration of Conformity and place the CE Mark on their product.



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## About Us

We are a leading provider of **mechanical engineering and product development services** to the manufacturing and technology sectors. We have an established track record of developing successful products and delivery of complex engineering projects.

Based in County Monaghan, our team of professional engineers provide a consistently high level of service to our customers in Ireland, the UK and China.

We have experience in a wide range of industries and sectors including:

- waste processing
- wind energy
- biomass
- construction products.

However our progressive and flexible approach ensures that we are always ready to take on new challenges.

## Mechanical Engineering

Mechanical Engineering Design is our fundamental core skill. We work in partnership with clients to **develop new products**, improve existing products and **develop bespoke systems**.

Our experienced design team use a combination of state of the art CAD systems and traditional engineering methods to meet our clients' needs.

We build 3D models of our projects and provide a full service from concept through to a complete set of manufacturing drawings.



We work on projects of various scales from machines weighing over **10,000kg** to instruments weighing less than **0.7kg**



### Services Include

#### Design for Manufacture

We take prototypes and turn them into fully developed, production ready products.

#### 3D Modelling

We are proficient in all major CAD systems.

#### Digital Prototyping

Using state-of-the-art CAD technologies we can help you to visualise, simulate, analyse and evaluate your product idea digitally.

#### 2D Drafting

We provide clear professional drawings, output data for CAM systems and diagrams for documentation.

#### Finite Element Analysis (FEA)

We use FEA to ensure sufficient strength and ensure efficient use of material.

#### Compliance Engineering

We design-in compliance with European and International Standards.

#### Product Life Cycle Management

We design products and set up systems so that revisions can be tracked and managed.

#### Prototype Manufacture

We offer a prototype manufacturing service to our customers.

## CASE STUDY | Mechanical Design

Project Engineering were approached by BHSL ([www.biomass.ie](http://www.biomass.ie)), a Limerick based international green energy company to develop their patented Toploader material handling system.

The innovative system is designed to store and dispense large volumes of biomass, agricultural and other difficult to handle materials that are not suitable for storage/handling with traditional hoppers, silos etc.

This product concept was acquired on license from the inventor but was only at the concept phase when BHSL approached the team at Project Engineering. Project Engineering were taken on board to fully develop the mechanical design of the product from the concept through to a fully functioning product.

The Project Engineering team worked closely with BHSL to gain a complete understanding of the required capabilities of the product and they began work by creating a digital prototype. Using digital prototyping techniques the Project Engineering team were able to create a moving 3D prototype of the

product so that it's functionality and aesthetics could be reviewed by BHSL. Critical components and assemblies were analysed using FEA which allowed the design to be virtually tested for structural strength and functionality.

Digital prototyping allowed the design to be fine-tuned digitally before a physical product was manufactured and resulted in a considerable saving of time and investment. The other significant benefit of creating a digital prototype is that the product design was highly evolved, detailed and developed without having to manufacture a number of expensive physical prototypes.

