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Plastic Injection Moulding in the **Construction** Industry

Durability,
Reliability,
and an **Abundance**
of Uses



Plastic and the Construction Industry

The Construction Industry is one of the largest industries that relies heavily on plastic injection moulded parts, which may take you by surprise.

When thinking of this industry in a manufacturing sense, materials such as wood and metal may more commonly be thought of – wall construction, equipment, girders etc.



So where and how does plastic fit in?

Plastic has a huge number and wide variety of benefits to many industries. One of these being that the end product rarely needs any further finishing, with a range of colours and textures achievable from initial manufacture.

Not only this, but the addition of resistance properties to the manufacturing process, such as flame retardant, UV protection etc., secondary processes are not needed.

These properties are not so easily achieved when it comes to other materials.

Wood would be very difficult to be flame retardant, and metal would be prone to rusting, whereas plastics are capable of withstanding both issues, and more, including environmental degradation and having chemical and electrical insulation properties.

It is not just the construction materials that plastic is winning the race on. Safety equipment and tools are now being manufactured using plastic's more and more.

Improvements on Traditional Methods

Here, we explore one of the many parts we have made for the construction industry, and discuss why plastic was the obvious choice of material. We were approached by a company that had developed a design for a fencing securing tool, to assist with the prototype and production of the end product.

Traditional ways of securing fencing had many problems, these being slow processes, dangerous and low resilience. The company in question wanted to find a way of getting this process done quickly, safely and without any future costs for maintenance and repairs.

This tool was designed to be able to secure fencing with twisted wire, 10 times faster than current methods.

Speak to our team of experts to find out how we can assist with your next construction part project

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Benefits of Plastics

It was decided that plastic would be the most suitable and effective material to use for this tool. This was due to a range of different aspects. Firstly, as mentioned previously, the colour of the tool was required to match the companies current branding. Colour matching using polymers is easily achieved, and with Dudley Associates expertise in this area, we were very quickly able to present the perfect colour match to the client.



This tool was required to be easy to use and lightweight – easy to hold and manoeuvre. Again, plastic fits the bill perfectly. Naturally lightweight material, manufacturing this tool using polymers would enable comfort and ease of use to be achieved as per the project requirements. By carefully selecting the correct fillers, plastic can offer a lower weight and high strength – Engineered resins can often be a much lower weight than other materials such as metals but offer the same strength.

One of the points raised in the initial meeting when discussing the project, was costing. This product was designed in order to reduce costs for the end user overall – including the upkeep of the fencing.



Plastic is often much cheaper than metal, so would keep the manufacturing cost down, which can be transferred to the selling price. Further to this, plastics are very low maintenance, additives can be added to prevent weathering and degradation, meaning less maintenance is required leading to lower material costs and no labour for upkeep.

The material used for this tool was chosen as it is extremely durable and rugged, to ensure that the tool itself is long-lasting, and being used outdoors, would be long-lasting and withstand certain environments.

This is just one example of the many projects that Dudley Associates have been and continue to be involved in, within the construction industry.



From smaller construction tools and equipment, to large machines and more, the use of plastics within this industry is growing.

Dudley Associates has the expertise to assist you with the design, development and manufacture of any construction part, from advice on material and additives, to engineering prototypes and beyond, we are on hand to help at every step of the journey.

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