

vacuum casting for industry

“ ideal for
complex
prototypes ”

For fast and accurate polyurethane (PU) resin castings of complex prototypes, large or small, vacuum casting is the answer. This highly versatile process allows for the casting of numbers of parts in a wide range of colours and materials. Flexible silicone mould tools made directly from your master patterns avoid the need for expensive and time-consuming hard tooling.

Process Applications are almost limitless, but it is particularly suited in development of injection mouldings, or when low volume rules out conventional tooling.

Master Patterns may be made from almost any stable non-porous material including SLA, tooling board, acrylics, waxes, cast resins etc. Little or no heat, and in most cases no pressure, is involved in mould making. We can provide hand finishing techniques to prepare master patterns to the required level. Finishes can range from grades of spark texture, smooth matt and satin to a high gloss finish.

Materials used are either rigid or flexible polyurethane casting resins. Rigid PU resin mechanical properties vary according to grade, these simulate materials such as ABS, nylon and polypropylene. Water clear UV stable, fire retardant, live hinge and high heat resistant PU resins are also available. Most rigid PU casting resins can be pigmented or tinted to the clients colour requirements.

Flexible polyurethane casting resin grades range from 25 (soft), 40, 60, 70 to 90 shore A. Also available in water clear. These materials can be combined to produce rigid parts with soft lips or completely covered to produce a 'soft feel part'.

Wax vacuum castings offer highly complex, thick and thin wall section wax patterns for investment casting in a range of materials, (steel, aluminium, brass and zinc) produced via silicone mould tools, giving a fast and cost effective solution.

Tolerances are typically less than 0.4% variation from master to moulding.

Mould Sizes range up to 1000mm x 850mm x 650mm with shot weights up to 6kilos.

Process Advantages include low tooling costs, rapid turnaround (e.g. mouldings within days of receipt of masters) exceptional detail and accuracy. Minimal shrinkage permits use of duplicates or sub-masters for multiple impressions, useful if originals are delicate.

Flexible moulds and inserts allow significant undercuts, simplifying mould-making which contains costs.

Client base in automotive, medical, electronic, aerospace, marine and film industry sectors.

For more
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