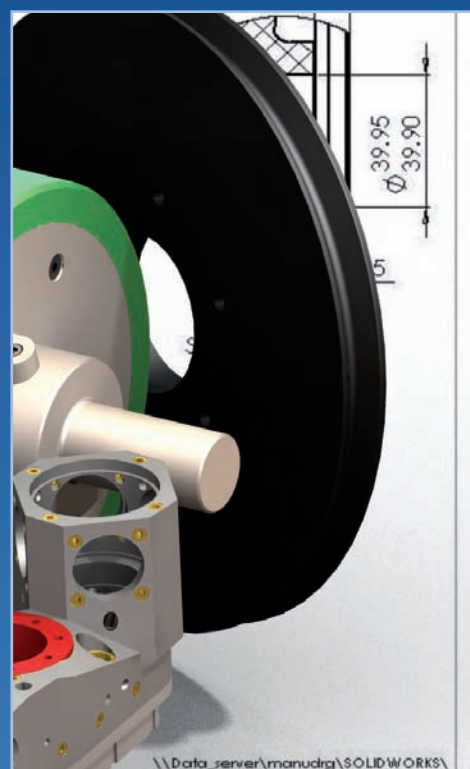
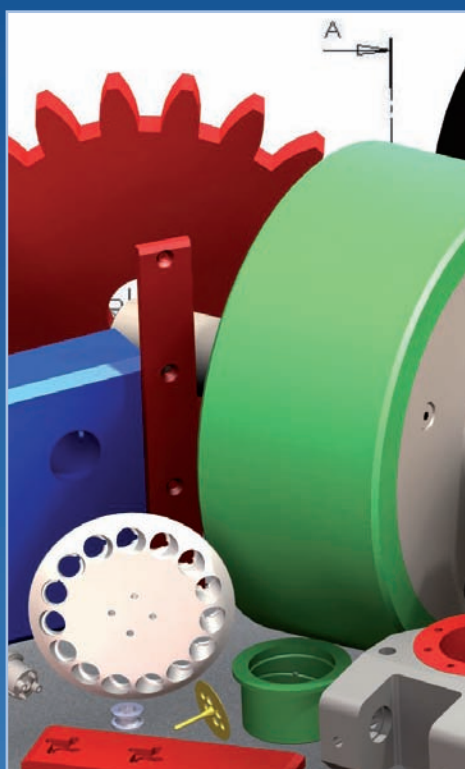
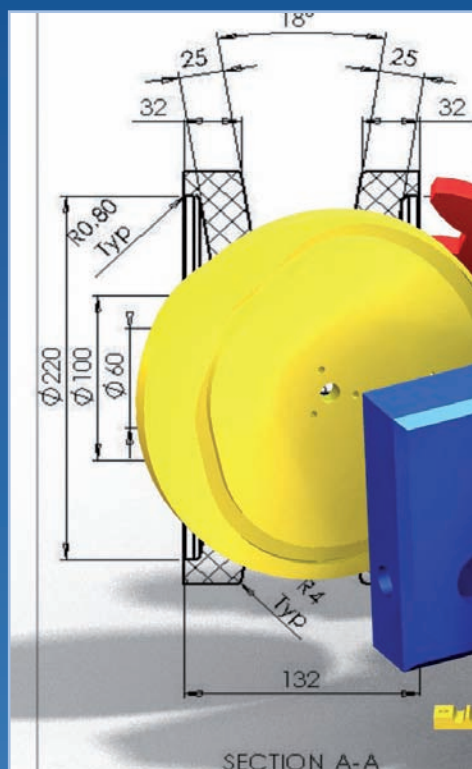




ENGINEERING PLASTIC SOLUTIONS

## COMPONENTS BROCHURE



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## 40 Years of Pioneering Plastics, Providing Solutions, Creating Value. The Nylacast Way

At Nylacast, we are proud of the contributions that our products and services make to society, and we feel a deep sense of responsibility, not only to continue to improving our products, but also to respond to environmental challenges and the many other demands placed upon our business. By focusing on the development of new technologies and services, we are building the mechanisms for long-term prosperity that will benefit our client base, the plastics industry and the engineering sector.

It is our corporate vision to contribute to industry with the world's most innovative technology. As we seek to become an "excellent company" in the 21st century, we will strive to create an innovation-driven corporate culture that continues to evolve and adapt to change. We consider ourselves more than just engineers, scientists, machinists and designers, but part of the business community. Nylacast core values, corporate culture and superior service set us apart from many companies. Fostering strong relationships with our clients, we embrace those relationships.

For many decades, plastics, with its extraordinary properties and capabilities, have played an important role as the basic material supporting both industry and society. Plastic products will continue to be essential for our civilisation in

the decades ahead. As such Nylacast corporate values are, "a challenging spirit", "flexibility" and "sincerity", which is implemented throughout every facet of the business.

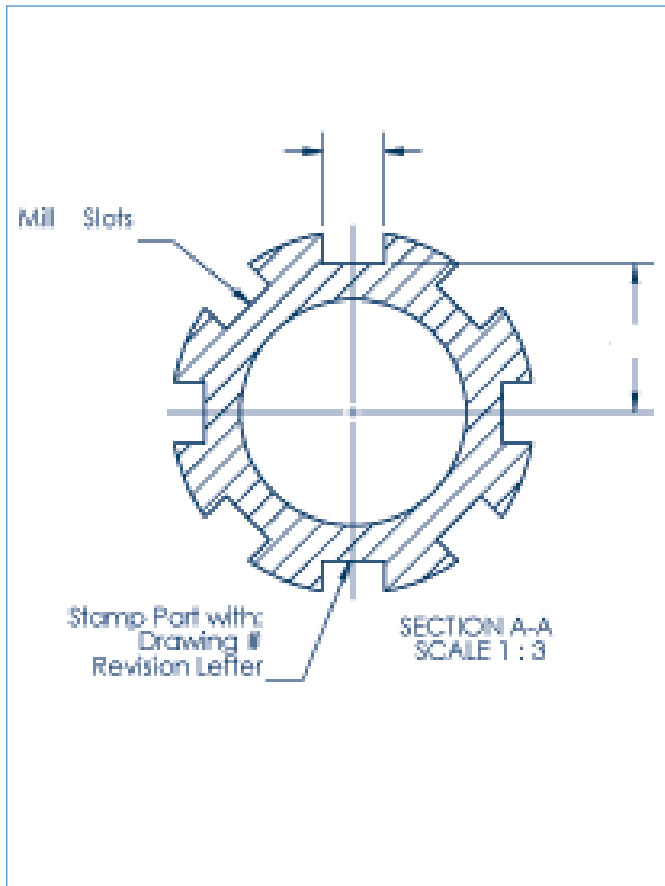
The strength and focus of the company has seen an evolution in the market place from being recognised as a pioneering "solutions provider" and adopting this pioneering spirit and philosophy to a company who is now a established in satisfying a customer base who is seeking to be a "value demander" and from being referred to as a "client" to a "business partner". Nylacast is proactively focused on establishing relationships within its market place and individual customers as its prospective "business partners".

Nylacast offers expertise in the services it provides. We have the ability to package our services in a variety of ways that allow our clients to choose their preferred benefit(s). These include:

- Applications Development
- Technical Consultancy
- Value Added Engineering
- Stock Shapes - Semi Finished product development



# Nylacast Technical Guidance



With over four decades of experience in the development of engineering plastic applications, Nylacast Components is considered as a world leader in this field.

Choosing the correct material for an application is often very difficult, which is why a team of highly experienced Technical and Sales Engineers are on hand to advise our customers at every stage of their enquiry. Material selection advice can usually be provided in most instances due to the vast experience gained from previous applications. Additionally, to ensure you have the right material for a particular application, we are able to modify our standard grades of material to exceed expectations.

In-house engineers and CAD designers are available to provide assistance with the design specification of a component. Three-dimensional modelling and visualisation software is employed in this respect.

- four decades of application experience
- Highly skilled team of designers, engineers and production staff
- World-leading range of engineering plastic materials
- Application and material selection advice
- Ability to modify material for particular applications
- CAD/CAM and 3D modelling design & production capability
- Samples and prototypes
- Machining capability to produce any component





## Nylacast Quality & Service

Quality is considered to be a critical factor in the success of Nylacast. Not only committing to delivering a high quality product to our customers, but controlling every level in the process to exceed our customers' expectations. Therefore we operate within the framework of ISO 9000 and TS 16949.

Working closely alongside our customers we control, organise and evaluate our entire business flow in order to enhance our performance, and uphold the highest level of quality of components. This process starts at the beginning of the business with the supply of raw chemicals, to the end stage with inspection department which is in every machine shop. Each Inspection department is equipped with the latest coordinate measuring machines, computer controlled surface finish and gear profile testing machines,

as well as a comprehensive range of traditional measuring instruments.

- Work within a framework ISO 9000 & TS16949
- Complete traceability on requested ordered
- Initial sample inspection reports
- Certificates of conformity & Certificate of Analysis
- Material characterisation
- Production part approval process
- Advanced product quantity planning
- MSA repeatability and reproducibility (GR&R) studies
- PFMEA / SPC / PFC



# Manufacturing

Our new purpose built casting facilities support the requirements of our machine shops and supply engineered plastics for 'in house' requirements.

## Nylacast CNC Milling Capability

Nylacast milling capacity is the envy of our competitors, employing 6 axis machining capability for producing complex parts, up to 3.7 metres in length and 1 metre in width. Over 50 CAD/CAM linked high quality CNC machine tools are processing high and low volumes of small, medium and large components 24 hours a day. The machines are equipped with three dimensional, freely programmable coordinate measuring attachments to ensure quality control at all times. Computer aided tool setting and changing allows close tolerances to be held to the customers drawing.

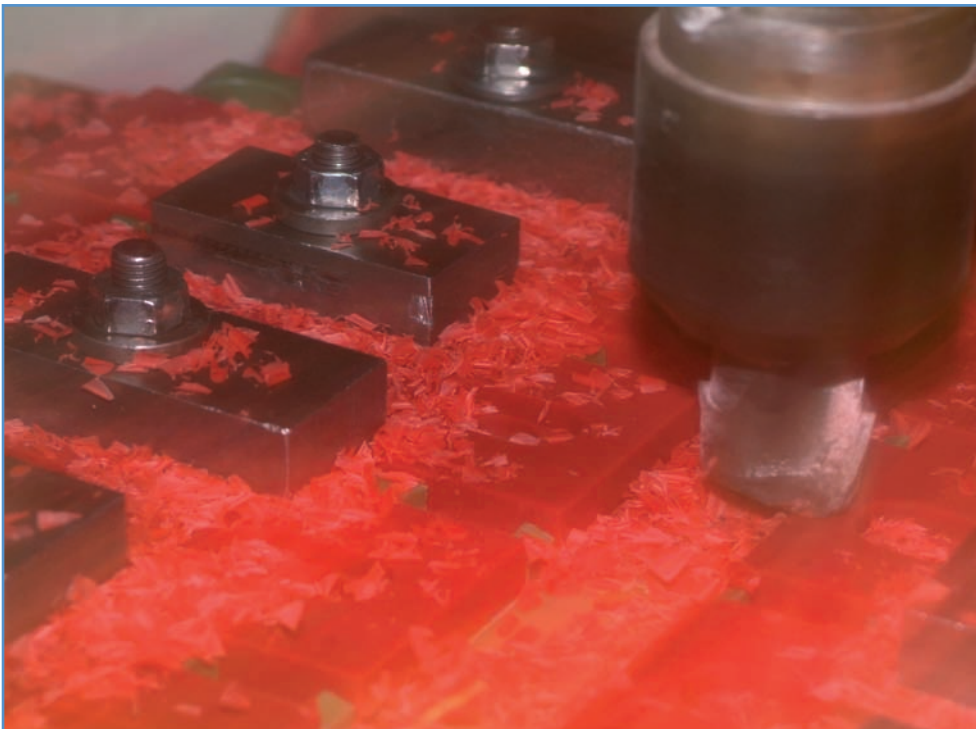
Continued strong investment within the milling department is ensuring that Nylacast increases its capacity in line with market demand. With our latest investment we can produce simple/complex components without the need of a drawing. Machine tool sourcing from world leading manufacturers enables us to deliver against customer expectations. Nylacast engineers are equipped to produce rapid prototypes and complex, one off components through to high volume applications requiring quality analysis in the form of PPAP, APQP, PFMEA and VAVE. Statistical Process Control (SPC) and Process Flow Charting (PFC) are adopted as part of the QA protocols.

Where required, intermediate annealing will be carried out

to maintain close tolerances and provide product stability. Whether it is metal inserts in parts, surface treatment, providing complete or sub-assemblies or marking parts to specific instructions, Nylacast will provide whatever service the customer requires at all times.

Nylacast adopts a lean manufacturing philosophy, constantly reviewing and implementing improvements to reduce production costs. Particular attention is paid to raw materials, work planning and physical machining time to optimise and streamline, thereby offering our customers the most cost effective components possible.

- 3.7m x 1m capacity
- 6 axis capability
- 50 machine tools / 24 hr operation
- Large and small components and volumes
- Continued investment in new technology
- Rapid prototypes and one-off components
- High volume QA protocols
- Secondary operations where required
- Lean manufacturing methodology
- Kan Ban and JIT systems



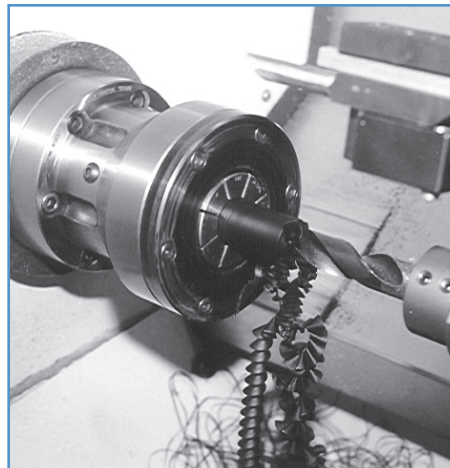
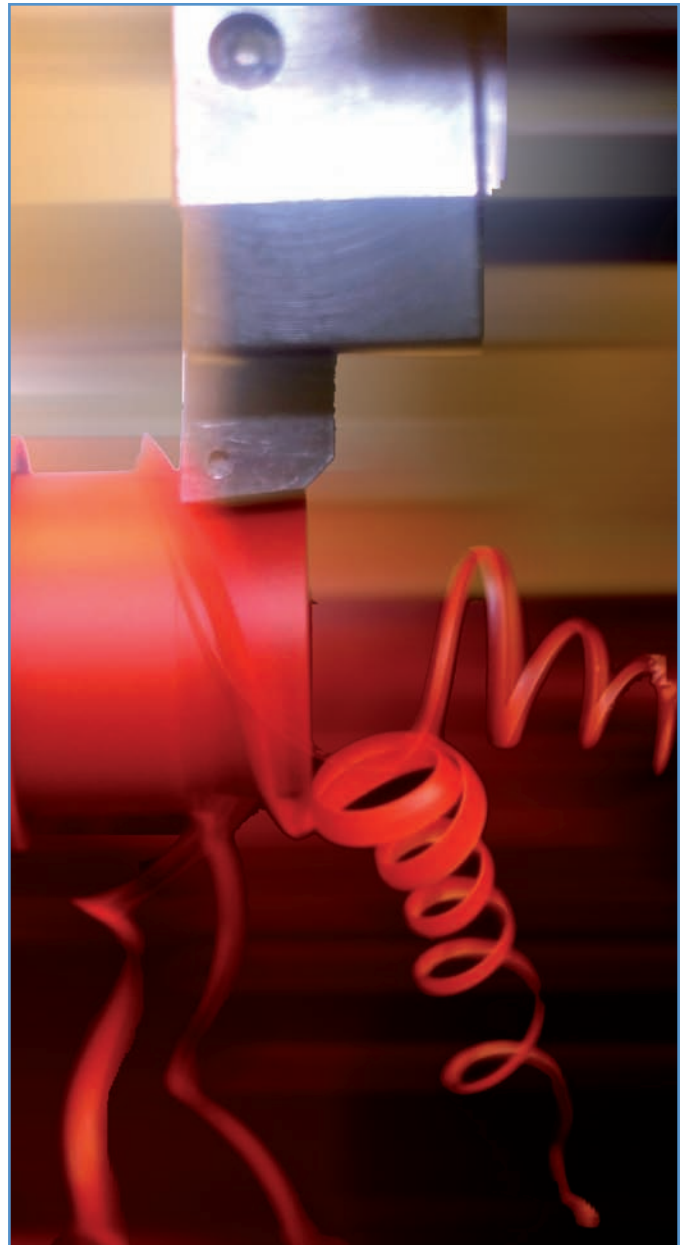
# Nylacast CNC Turning Capability

At Nylacast we recognise the requirement in today's fast evolving industries to constantly invest in the latest machine tool technology. With this in mind, we have at our disposal a wide range of CNC turning capacity capable of producing parts from 10mm to 2 metres in diameter and up to 4 metres in length. Over 50 CAD/CAM linked high quality CNC machine tools are processing high and low volumes of small, medium and large components 24 hours a day.

CNC lathes coupled to bar feeding systems allowing automated production with minimal human intervention undertake large volume work. Live tooling on certain machines provides an added dimension for components requiring operations that would normally be undertaken by milling machines. This eliminates the requirement for multiple holds. Computer aided tool setting and changing allows close tolerances to be held to the customers drawing.

Other machine tools work in conjunction with the turning capacity in relation to additional operations of the turned component. CNC gear-cutting, broaching, honing and grinding machines are all employed to work alongside the CNC turning capacity wherever required. The gear-cutting capacity is among the finest in the world and is capable of delivering the most complex gear profiles to extremely high levels of accuracy and consistency. Where required, intermediate annealing will be carried out to maintain close tolerances and provide product stability.

- 1.4m diameter x 4m long capacity
- Large and small components and volumes
- Bar feeding systems
- Live tooling capability
- 50 machine tools / 24 hr operation
- Continued investment in new technology
- Rapid prototypes and one-off components
- High volume QA protocols
- Secondary operations where required
- Lean manufacturing methodology
- Kan Ban and JIT systems
- Short lead times



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