



Smartcast* Solutions: Smarter Parts, Less Waste

Sustainability and cost don't have to compete. With **Mitsubishi Chemical Group (MCG) Smartcast** technology, you can achieve both in cases where nylon fits the design and production volumes justify a tooling investment.

Sustainability Built In

Smartcast solutions help bridge the gap between machining and injection molding by doing more with less. Traditional machining starts with complex parts that require significant material removal. That scrap not only adds to waste, but also inflates machining time, energy, and cost.

Smartcast solutions help resolve that by using a closed mold, allowing machinists to cast near-net shapes with complex details—eliminating much of the waste before machining even begins. The more parts produced, the more savings grow. Smartcast solutions also deliver the strength and wear resistance of **Nylatron™ cast nylon 6** for a longer part life.



Compared to machining from standard shapes, Smartcast solutions offer:

- ✓ **Reduced waste**—Less material removal means lower scrap rates and saved costs
- ✓ **Improved efficiency**—Near-net shapes reduce machining time
- ✓ **Scalability**—Large, complex parts without expensive tooling
- ✓ **Durability**—Parts last longer for demanding applications

Reducing Waste in the Field

The challenge: When MCG engineers redesigned 18" x 18" outrigger pads, the goal was to use less and last longer.

The solution: Replacing ultra-high molecular weight (UHMW) polyethylene with Nylatron™ cast nylon 6 improved both performance and material efficiency. Smartcast solutions allowed the new pads to be formed with intricate ribs and webbing. Custom, cast-in features including a logo, handle, and mounting slots, along with a matte finish that improved the look and feel of the parts, reinforced a positive image for the original equipment manufacturer (OEM).



The results:



<2% Total Scrap

Minimal waste, maximum material savings.



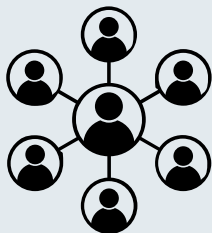
Stronger & Stiffer

Outperforms UHMW polyethylene in strength and durability.



20% Lighter

Compared to machined nylon pads.



Want to see how Smartcast solutions can support your sustainability goals?

Let's talk. [Our team](#) is here to help.

All statements, technical information, recommendations, and advice are for informational purposes only and are not intended and should not be construed as a warranty of any type or term of sale. The reader, however, is cautioned that Mitsubishi Chemical Advanced Materials does not guarantee the accuracy or completeness of this information and it is the customer's responsibility to test and assess the suitability of the products of Mitsubishi Chemical Advanced Materials in any given application or for use in a finished device.

Trademark pending.

Published May 2025