



NEW

Performance Additives iM30K

LESS WEIGHT **MORE
MUSCLE**



New iM30K additives are ideal for use with high performance engineered thermoplastics, like...

- ABS
- Acetal
- Glass- Filled Polycarbonate
- PCABS
- PPO
- PP
- Nylon
- TPO



3M iM30K additives can help...

- Reduce part weight
- Improve dimensional stability
- Differentiate resin formulations
- Improve processing throughput
- Reduce CLTE
- Reduce wear on tooling and secondary operations

For years compounders and injection molders of plastic parts have used additives like glass fiber, silica, calcium carbonate and talc to solve a variety of production challenges. Unfortunately, these fillers often added weight and negatively impacted polymer flow properties.

Now, a new class of high strength additives – 3M™ Performance Additives iM30K – is available to help address the limitations of conventional fillers.

3M iM30K additives are microscopic hollow spheres. Their low density and high strength makes them ideal additive materials in the automotive, heavy truck, aerospace, electrical, electronics, appliance and durable goods industries, as well as in construction products such as polymer/wood composites and siding – helping not only to reduce part weight, but also to improve dimensional stability and to increase processing throughput.

**SURPRISINGLY
STRONG.**

Designed for strength and efficiency

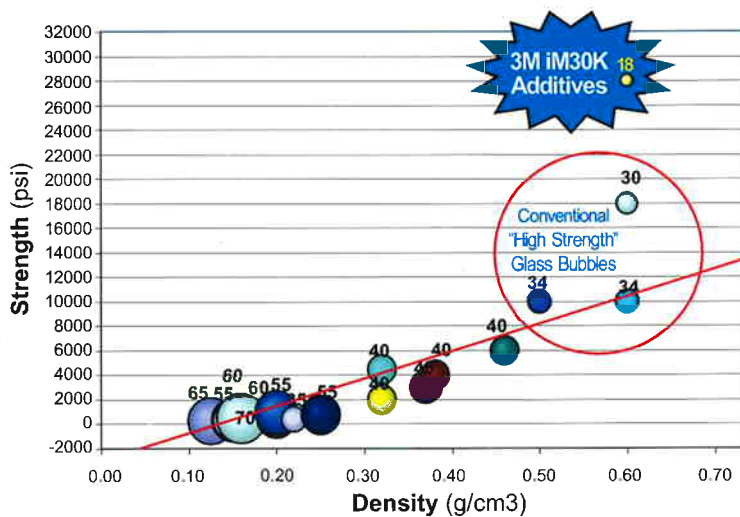
Although the physical makeup of 3M iM30K additives is far more “open space” than glass, their shape makes them quite strong. As one of nature’s strongest shapes, the sphere offers the least surface area per volume of any figure, allowing it to absorb great pressure. In fact, 3M iM30K additives can withstand processing pressures up to 30,000 psi.

The result: higher loading, lighter parts

Taken together, the high strength and low density of 3M iM30K additives make for higher loading and lighter polymer parts.

**SURPRISINGLY
LIGHT.**

Glass Bubble Strength-Density-Size Map



Potential applications could include refrigerator drawers, shelves, cabinets and other home appliance components.



MORE THAN LIGHT WEIGHT

In addition to high strength and low density, 3M™ Performance Additives iM30K have many other benefits to offer the injection molder and the plastic compounder:

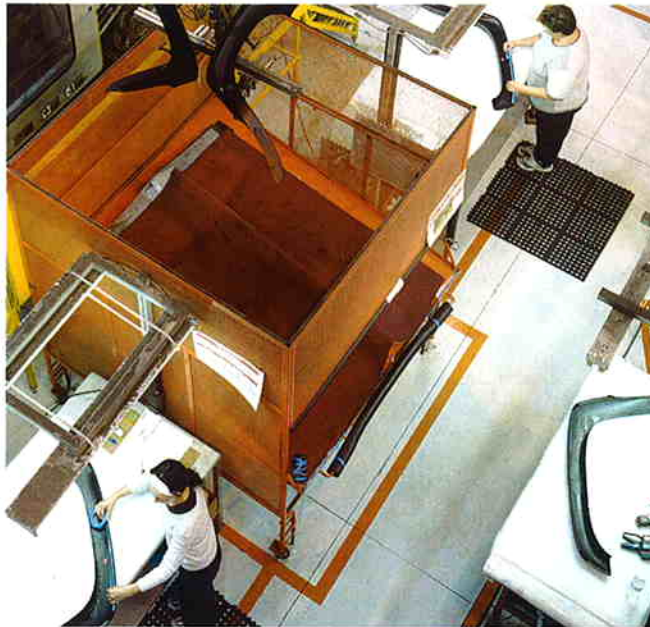


Photo courtesy AP Plasman



Dimensional stability.

The high strength of 3M iM30K additives minimizes warpage and shrinkage, providing more control over finished part dimensions.

Increased yield.

High crush strength and improved dimensional stability enable injection molders and compounders to meet part tolerances consistently. Higher bubble strength enables improved process survival resulting in process waste reduction.

Improved flow.

Because they are spherical in shape, 3M iM30K additives act like millions of tiny ball bearings, greatly reducing friction and helping to improve the rheology of polymer mixtures. This not only helps reduce wear and tear on your equipment, but can also significantly increase your processing throughput.

Increased filler loading.

A direct result of improved flow is the ability to form highly filled parts more easily. That also means lower mold temperatures and lower injection pressures.

SAFETY & HANDLING

Note: Before using product, read and follow the precautions and directions for use in the product label and Material Safety Data Sheet.

Due to the low weight and small particle size of 3M™ Performance Additives iM30K, dusting may occur while handling and processing. To minimize the dusting potential, injection molders and compounders should consider the following during handling:

- Do not open packages until they are ready for use.
- When opening the packages, place an air siphon near the package to pull away airborne particles. (A dust collection system may be required—check your local OSHA regulations.)
- Remove the additives with a suction wand (with slight positive pressure aeration) and transfer to a closed mixing tank inside fully contained piping. If a closed mixing tank is not available, use dust collection equipment as close as possible to the point of entry. Pneumatic conveyor systems have been used successfully to transport glass bubbles without dusting from shipping containers to batch mixing equipment. Equipment vendors should be consulted for specific recommendations.
- Static eliminators should be used to prevent static buildup.

For worker protection, please consider the following:

- Use chemical safety goggles for eye protection whenever working with 3M iM30K additives.
- For respiratory system protection wear an appropriate NIOSH-approved respirator. (Refer to the Material Safety Data Sheet for additional information about personal protective equipment.)
- Use an appropriate ventilation/dust collection system in the work area.

3M RESOURCES

3M™ Performance Additives iM30K are available for use in injection molding and compounding applications. For more information, please contact your local 3M representative, or call 800-367-8905.

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