



## A Preferred Material for Coloring, Profile & Extrusion Applications

MAGNUM™ ABS Resins are manufactured with mass polymerization technology, a continuous process which makes the resins more advanced and enable them to bring significant benefits to both injection molding as well as profile and sheet extrusion applications.

The advantages of MAGNUM™ ABS Resins include:

- Excellent color stability
- White base color
- Purer and cleaner
- Excellent lot-to-lot consistency
- Excellent thermal stability
- Wider processing window
- Excellent impact resistance
- Low gel level
- Low VOC

### Trinseo Fast Facts

- More than 70 years of technology and marketplace leadership
- More than 2,500 employees in over 20 locations
- 16 production sites across the world
- 11 R&D facilities across the world



Trinseo's ABS production plant in Zhangjiagang, China.

## Ideal for Coloring (Compounding & Masterbatch)

Due to the **consistent white base color** from mass polymerization process, MAGNUM™ ABS Resins are ideal for coloring because they are by default available in their natural form.

The advanced properties and features of MAGNUM™ ABS Resins help customer color their parts closer to the desirable target aesthetics effect with less pigment and bring **significant cost savings** and excellent quality.

## Brighter Colors to Begin With



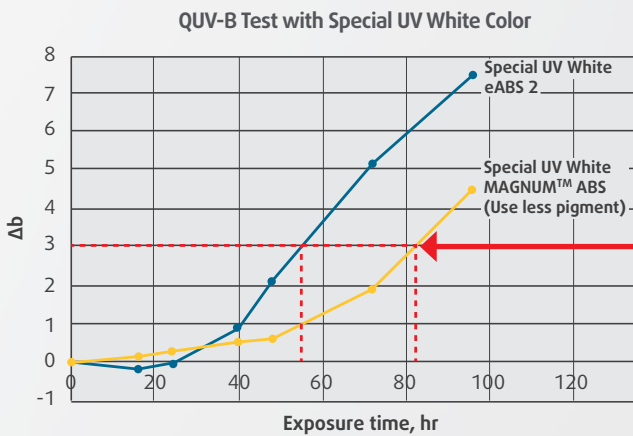
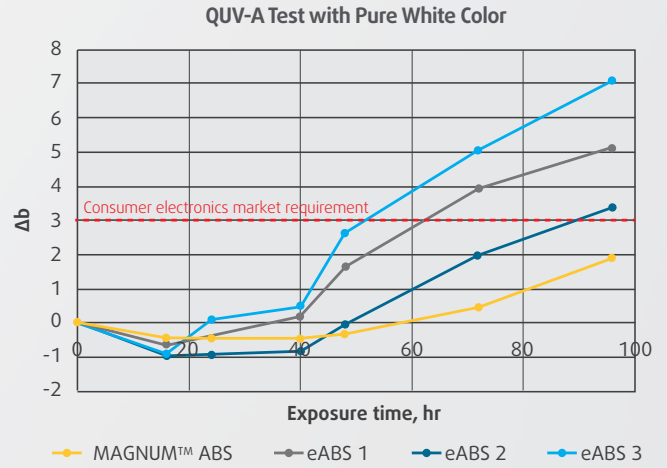
The above washing machine door kits show how MAGNUM™ ABS resins contribute to a brighter color.

The naturally whiter color of MAGNUM™ ABS resins makes coloring more effective and appealing.

Compared with the part made with a typical ABS in the market (the part on the left), the customer can make a brighter & greener molded part with MAGNUM™ ABS.

## Maintains Color Better in the Long Run

Compared with three other competitive emulsion ABS resins in the market, MAGNUM™ ABS demonstrated **significantly lower  $\Delta b$  values** with time, which means parts made with MAGNUM™ ABS can maintain color better in the long run, and is particularly obvious in light and bright color.



In a QUV-B test for a special UV white color, MAGNUM™ ABS demonstrated better UV resistance, required **more than 20 hours** to reach the same color shift than eABS2, equivalent to approximately 6 months' outdoor exposure. MAGNUM™ ABS also required less pigment loading to achieve the same UV white color.



**MAGNUM™ ABS Resins** are proven to be a high performance, cost-saving solution to your coloring challenge.

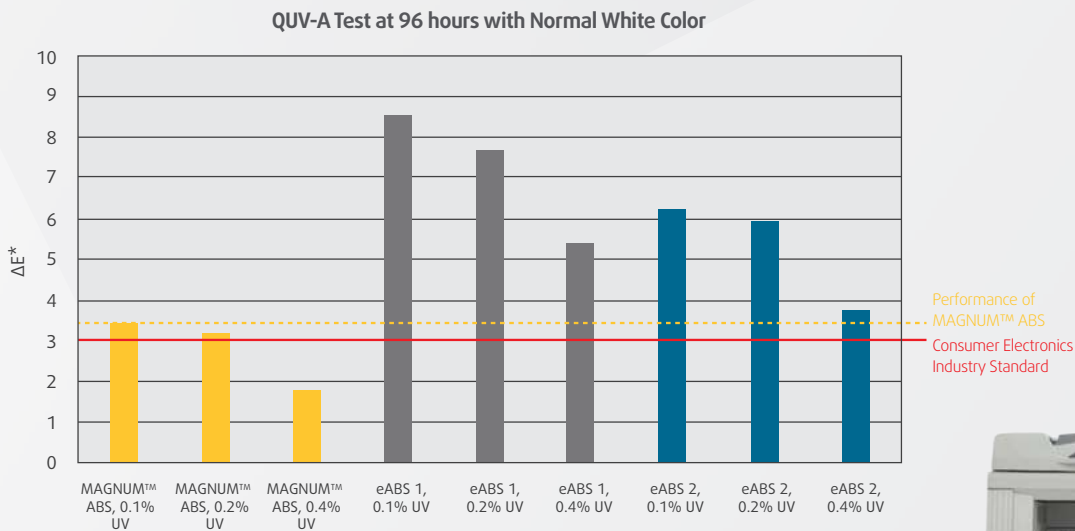
## QUV-A Test: Color shift at different exposure times

A typical emulsion ABS



**MAGNUM™ ABS Resins** are not just whiter to begin with, it is **comparatively whiter through time**, which mean parts made by MAGNUM™ ABS Resins have **less color shift** in the same period of time, compared to parts made with emulsion ABS resins. This is essential in ensuring product quality and the prolonged aesthetic is crucial in safeguarding your brand.

## Better Performance with Even Less UV Stabilizer



MAGNUM™ ABS is able to achieve the Consumer Electronics Industry standard by using **2 times less UV stabilizer**. In other words, UV stabilizer cost will be saved significantly by using MAGNUM™ ABS resins while meeting the Consumer Electronics Industry requirement on UV resistance.



## A leading material for sheet & profile extrusion applications

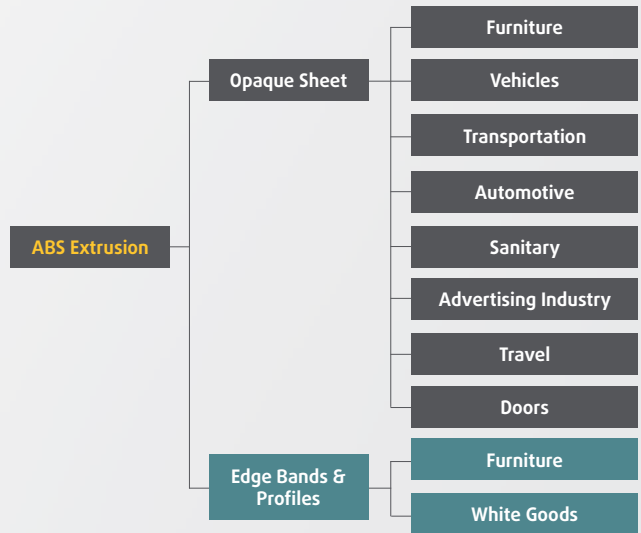
Trinseo's MAGNUM™ ABS Resins are recognized in the market for making quality extrusion sheets, and have been recommended by many high-end extruders internationally.

In fact, Trinseo is the market leader in Europe for ABS sheet & profile extrusion applications. Our products are being used in two major applications that go into an array of end-markets.

## Attributes that make MAGNUM™ ABS Resins a preferred choice for sheet & profile extrusion applications

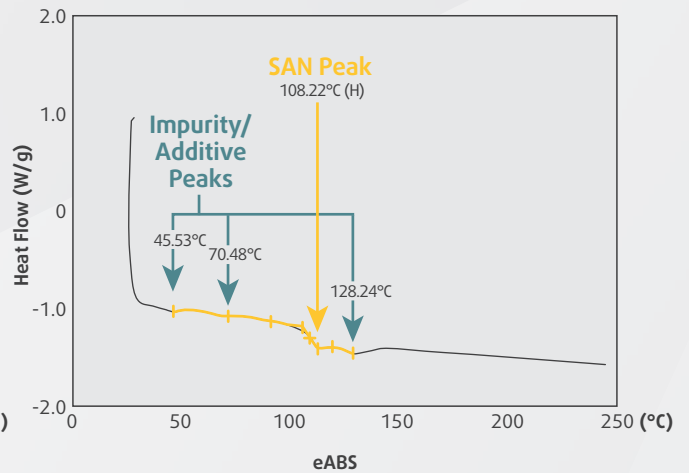
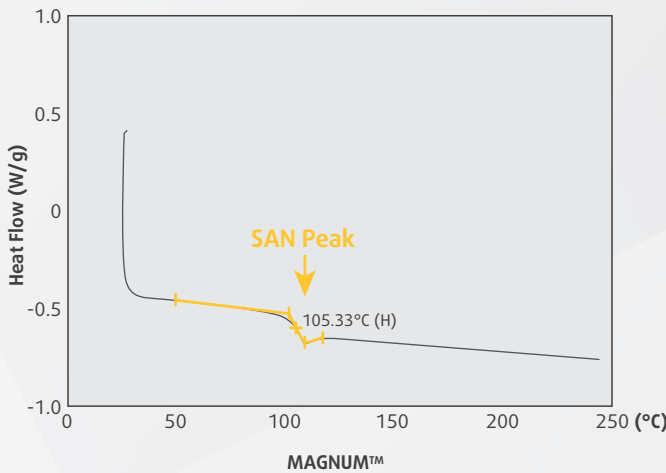
### A Pure Product

MAGNUM™ ABS is a much purer resin compared with other typical emulsion ABS resins, only glass transition temperature of ABS can be observed at the DSC thermogram.



The DSC analysis showed that the emulsion ABS have multiple peaks at the thermogram, representing the presence of several impurities/Additives in the polymer matrix. This may negatively impact the extrusion process, such as plate out on the die or rollers.

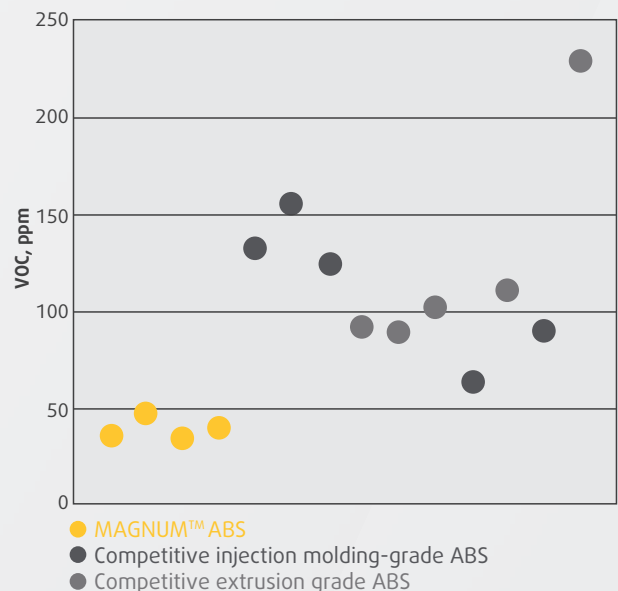
DSC (Differential Scanning Calorimetry)



Compared with many emulsion ABS resins available in the market, MAGNUM™ ABS resins are proven to have **lower VOC levels**. This is especially essential when government regulations and industrial standards on VOC are getting higher.

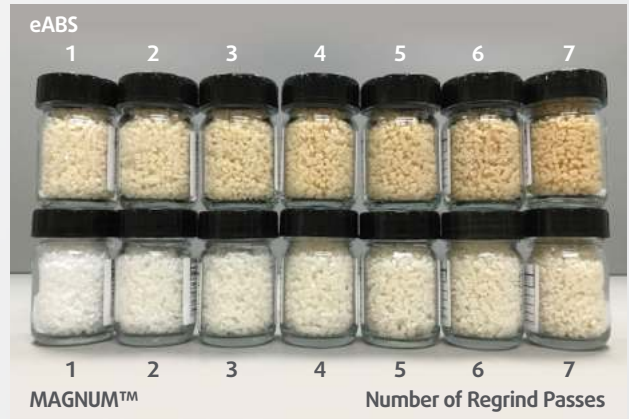
Apart from having a final product that is lower in odor levels, using MAGNUM™ ABS resins also means **significantly less odor in the molding and processing area**.

VOC level comparison



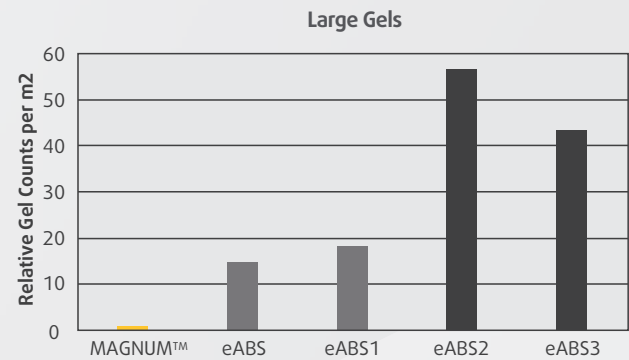
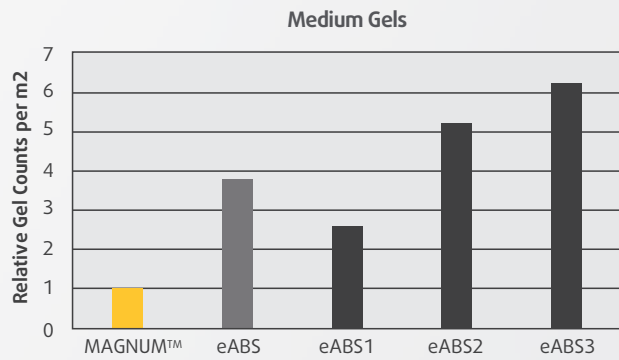
### Excellent Thermal Stability

MAGNUM™ ABS Resins have excellent thermal stability and are easy to reprocess as regrind. Compared to a typical competitive emulsion ABS resin, MAGNUM™ ABS **maintains a lighter color after several regrind passes**. Thermal stability leads to **less scrap**, easy regrind use, contributing to cost saving.



### Low in Gels

Low gel level is definitely one of the key elements in creating **high-quality smooth surface sheet**. The significantly low gel level of MAGNUM™ ABS resins make it an unbeatable choice for your sheet applications.



Compared with other emulsion ABS resins in the market, MAGNUM™ ABS resins are proven to have **less medium and large gel count**.



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