



## KINGFISHER Color Series of Nano-Functional Materials

*(International patents pending)*

The application of nano-technology in polymer materials processing is one of the research directions of KEIMEI Plasticizing Technology. The KINGFISHER color series of nano-functional materials is a product range utilizing KEIMEI's nano-technology to disperse pigments in a polymer matrix in the form of independent nano pigment particles to obtain polymer-based nano materials. When used for coloring polymers, this nano material can not only impart strong colors to the polymer but will also exert numerous beneficial effects due to its nano properties, especially in coloring microfibers.

### **Benefits in coloration of melt-blown microfibers:**

- Enhances the buffer ability of melt materials, effectively buffering the impact of temperature and material index fluctuations.
- Markedly prolongs the spinneret cleaning cycle by about 50% compared to conventional coloring materials.
- Significantly reduces melt drops and fiber breakages, potentially improving the stability of fiber production.
- Achieves approx. 20% increase in fiber strength.
- Improves the hydrostatic pressure resistance of SMS nonwoven fabrics by approx. 6~25%.
- Improves material elongation behavior, enabling to spin finer fibers.

### **Application advantages:**

- Improved comprehensive performance index of superfine fibers.
- Reduction in nonwoven defect rates.
- Ability to decrease nonwoven gram weights while maintaining fabric properties unchanged.
- Energy savings and reduction in emissions.
- Lower cost of production for nonwovens.
- Significantly improved comprehensive performance of nonwoven fabrics, e.g., hydrostatic pressure resistance value, softness, filterability, air permeability, fabric appearance, etc.
- Enhanced characteristics of the nonwoven product after finishing treatment due to the surface energy of nano materials.

**Keimei Plastifizierung Technik GmbH**

Otto-Brenner-Str. 6a, 47877 Willich, Germany

Tel.: +49 2154-9532945

Fax: +49 2154-9532946

E-Mail: [info@keimei.de](mailto:info@keimei.de)

[www.keimei.de](http://www.keimei.de)



### Basic Indexes of KINGFISHER Color Series Nano-Functional Materials

Indexes Color	Model	$\Delta P$ (bar/g)	Bulk density (g/ml)	Suggested addition Rate %	Applications
	Blue1	$\leq 0.5$	$0.67 \pm 0.1$	1.7	Spunbond, BCF, POY
	Blue1M	$\leq 0.5$	$0.55 \pm 0.1$	3.5	Meltblown
	Blue2	$\leq 0.5$	$0.72 \pm 0.1$	1.6	Spunbond, BCF, POY
	Blue2M	$\leq 0.5$	$0.55 \pm 0.1$	3.2	Meltblown
	Blue3	$\leq 0.5$	$0.67 \pm 0.1$	1.2	Spunbond, BCF, POY
	Blue3M	$\leq 0.5$	$0.52 \pm 0.1$	2.2	Meltblown
	Blue4	$\leq 0.5$	$0.66 \pm 0.1$	1.5	Spunbond, BCF, POY
	Blue4M	$\leq 0.5$	$0.58 \pm 0.1$	5.5	Meltblown
	Blue5	$\leq 0.5$	$0.7 \pm 0.1$	1.8	Spunbond, BCF, POY
	Blue5M	$\leq 0.5$	$0.56 \pm 0.1$	2	Meltblown
	Blue8	$\leq 0.5$	$0.66 \pm 0.1$	2.5	Spunbond, BCF, POY
	Blue8M	$\leq 0.5$	$0.55 \pm 0.1$	2.0	Meltblown
	Blue6	$\leq 0.5$	$0.7 \pm 0.1$	1.9	Spunbond, BCF, POY
	Blue6M	$\leq 0.5$	$0.55 \pm 0.1$	4.5	Meltblown
	Blue7	$\leq 0.5$	$0.59 \pm 0.1$	2.5	Spunbond, BCF, POY
	Blue7M	$\leq 0.5$	$0.55 \pm 0.1$	3.5	Meltblown
	Blue9	$\leq 0.5$	$0.66 \pm 0.1$	2	Spunbond, BCF, POY
	Blue9M	$\leq 0.5$	$0.56 \pm 0.1$	3	Meltblown
	Blue10	$\leq 0.5$	$0.66 \pm 0.1$	0.4	Spunbond, BCF, POY
	Blue11	$\leq 0.5$	$0.68 \pm 0.1$	0.4	Spunbond, BCF, POY
	Blue12	$\leq 0.5$	$0.68 \pm 0.1$	1.5	Spunbond, BCF, POY
	Blue12M	$\leq 0.5$	$0.55 \pm 0.1$	3.0	Meltblown
	Blue13	$\leq 0.5$	$0.69 \pm 0.1$	2	Spunbond, BCF, POY
	Blue13M	$\leq 0.5$	$0.56 \pm 0.1$	1.7	Meltblown
	Green1	$\leq 0.5$	$0.61 \pm 0.1$	2.0	Spunbond, BCF, POY
	Green1M	$\leq 0.5$	$0.59 \pm 0.1$	2.6	Meltblown
	Green2	$\leq 0.5$	$0.73 \pm 0.1$	1.0	Spunbond, BCF, POY
	Green3	$\leq 0.5$	$0.73 \pm 0.1$	1.2	Spunbond, BCF, POY

#### Remarks:

1. Material form: granules,  $\phi 3 \times 3$  mm.
2. Appropriate adjustments in spinning parameters may be needed depending on circumstances.
3. Material must be stored in a dry state for use.
4. Package: 25kg/bag or 500kg/case.
5. Changes in specifications reserved, please note our latest information releases in each case.