ABOUT PCBL LIMITED

PCBL, a part of RP-Sanjiv Goenka Group, has been playing a pioneering role in the performance materials and specialty chemicals segment, with a current production capacity of 6,86,000 MT and generating 98 MW of green power. Today, we are the largest carbon black manufacturer in India and a strong global player with a significant customer base in 50+ countries.

We are driven by our Vision of providing cutting edge solutions to our Partners and offer a robust product portfolio to meet specific requirements across industries such as rubber, plastics, inks, coatings, conductive, etc. Additionally, our service and strong technical support ensures long-term relationships with our customers.



RESEARCH & INNOVATION

At PCBL, research and innovation represent most potent platform for sustainable growth. Over the last few years, we have deepened our research commitment comprising forward looking investments in infrastructure, people and processes resulting in empowerment of the Company with proven capabilities in product application, process efficiency and product customisation.





The facts and recommendations made in this leaflet are based on the study of our own and the study of others and are reasonably believed to be accurate. However, no guarantee or warranty as to this information or any product to which it relates, is given or implied. PCBL disclaims all warranties expressed or implied, including merchantability or fitness for a particular purpose as to (i) Such information (ii) Any product or (iii) Intellectual property rights. In no event is PCBL responsible for and PCBL does not accept and hereby disclaims liability for any damages whatsoever in connection with the use of or reliance on this information or any product to which it relates.



PCBL Limited

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The Sushila Goenka Research and Development Centre (Palej, Gujarat, India) and the Sushila Goenka Innovation Centre (Ghislenghien, Belgium) focus on market driven innovation to expand and augment our product portfolio, by adopting novel products and technology leading to competitive advantages.



- NuTone series of grades has been developed to provide excellent colour, gloss, viscosity, stability and good dispersion.
- Designed to suit variety of applications such as offset inks, liquid inks, inkjet inks, coatings, adhesives and sealants.
- Morphology of NuTone is optimised to improve the performance for the end user.

| | PARTICLE SIZE | | | | | | | | | |
|------------|--------------------------|------------------------|--------------------------|--|--|--|--|--|--|--|
| | LARGE (PARTICLE SIZE) | PROPERTIES | SMALL (PARTICLE SIZE) | | | | | | | |
| ES | Lighter | Masstone | Darker | | | | | | | |
| PROPERTIES | Weaker | Tinting Strength | Stronger | | | | | | | |
| OPE | Blue | Tinting Undertone | Brown | | | | | | | |
| | Easier | Pigment Dispersibility | Harder | | | | | | | |
| WITH | Lower | UV Protection | Higher | | | | | | | |
| 3 | | | | | | | | | | |

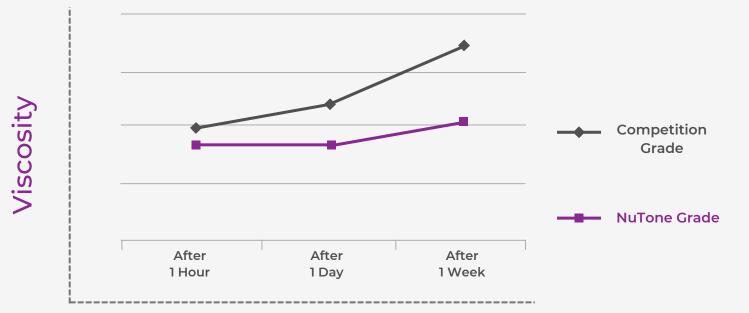
STRUCTURE

| | STRUCTURE | | | | | | | | | | |
|--------------|---------------------|------------------------|--------------------|--|--|--|--|--|--|--|--|
| RELATIONSHIP | HIGH (STRUCTURE) | PROPERTIES | LOW (STRUCTURE) | | | | | | | | |
| | Lower | Pigment Loading | Higher | | | | | | | | |
| | Easier | Pigment Dispersibility | Harder | | | | | | | | |
| | Lower | Gloss | Higher | | | | | | | | |
| | Slightly Weaker | Colour | Slightly Stronger | | | | | | | | |
| | Blue | Tinting Undertone | Brown | | | | | | | | |



| S | Grade | NSA | OAN | Tint Strength | pH Values | Publication Sheetfed/ Letterpress | Heat Set | Cold Set | Liquid Inks (Flexo/Gravure) Solvent Based | Liquid Inks (Flexo/Gravure) Water Based | Screen Printing | UV Curing Inks | Aqueous Inkjet Inks | Pigment Paste | Toners | Industria Coatings |
|---------------------|-------------------------|-------|---------|------------------|--------------|---|-------------|-------------|---|---|--------------------|-------------------|------------------------|------------------|--------|-----------------------|
| | ASTM No. | D6556 | D2414 | D3265 | D1512 | | | | | Inks | | | | | | |
| | Unit | m²/g | ml/100g | Tint Unit | pH Unit | | | | | INKS | | | | | | |
| | NuTone 302 [#] | 109 | 99 | 105 | 8 | | | | | | | | | | | |
| U | NuTone 303 | 80 | 68 | 115 | 8 | | | | | | | | | | | |
| | NuTone 305 | 118 | 112 | 112 | 8 | | | | | | | | | | | |
| APPLICATIONS | NuTone 306 | 82 | 105 | 102 | 8 | | | | | | | | | | | |
| | NuTone 310 | 63 | 45 | 102 | 8 | | | | | | | | | | | |
| õ | NuTone 373 | 135 | 56 | 130 | 8 | | | | | • | | | | | | |
| Ш С | NuTone 313 | 122 | 100 | 120 | 8 | | | | | | | | | | | |
| E | NuTone 324 | 75 | 72 | 111 | 8 | | | | | | | | | | | |
| <u> </u> | NuTone 36* | 104 | 95 | 125 | 3 | | | | | | | | | | | |
| | NuTone 37* | 95 | 60 | 126 | 3 | | | | | | | | | | | |
| PROPERTIES | NuTone 98* | 34 | 95 | 65 | 3 | | | | | | | | | | | |
| ٩ | NuTone 21* | 69 | 45 | 102 | 3 | | | | | | | | | | | |
| | NuTone 390 | 52 | 45 | 95 | 8 | | | | | | | | | | | |





Time Interval

COLOUR PERFORMANCE

Relative colour of two samples can be described by their positions along L, a, b axes.

In masstone applications, the level of blackness (jetness) and undertone produced by carbon black are affected by several parameters related to carbon black properties and dispersion quality, both of which influence light absorption (jetness) and scattering (undertone) characteristics.

