RUBBOND RR160

TECHNICAL DATA SHEET

Issue No 001

Revision Date 01.12.2018

Product - Trade Name
RUBBOND RR160

Classification
Phenolic Novolak Resin

Composition
Modified Phenol–Formaldehyde Novolak reinforcing resins with low free Phenol and without Hexamethylenetetramine.

Physical properties
Form : Amber to Orange Pastille
Sp. Gr. @ 25°C : 0.95 – 1.00

Chemical Properties

<table>
<thead>
<tr>
<th>Phenolic Reinforcing Resins - RUBBOND Series</th>
<th>RUBBOND RR-160</th>
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</thead>
<tbody>
<tr>
<td>Resin</td>
<td>Alkyl Phenol</td>
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<tr>
<td>Modifier</td>
<td>101 - 113</td>
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<tr>
<td>Softening Point (°C, R&amp;B)5°C / Min</td>
<td>0.1 Max</td>
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<tr>
<td>Ash Content (% 750°C/2hrs)</td>
<td>&lt; 1</td>
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Applications
RUBBOND RR160 resin could be used as reinforcing agents for rubber compounds containing natural rubber (NR), styrene-butadiene rubber (SBR), butadiene rubber (BR), nitrile-butadiene rubber (NBR), ethylene propylene diene monomer (EPDM) rubber and chloroprene (CR) rubbers for the manufacture of treads and sidewalls of tires.

As a reinforcing material, the use of RUBBOND RR160 resin in rubber compounds can improve the hardness, tear resistance, abrasion resistance, tensile strength, reduced Mooney viscosity and prolonged scorch time properties. CNSL, tall oil and alkyl-phenol modified resins are expected to have better compatibility with rubber compounds so that accelerated filler dispersions with improved processability of rubbers could be achieved.

Use in Rubber Compounds
RUBBOND RR160 resin products should be used along with another methylene donor, such as hexamethylenetetramine (HMT) or hexamethoxymethylamine (HMMM), in the rubber compounding applications. In order to achieve an optimum reinforcement in rubber compounds, these reinforcing resins should be added at a level of about 5 - 15 weight %.

In the rubber compound mixing process, to avoid pre-vulcanization and also, to achieve good scorching property, RUBBOND RR resins (as methylene acceptors) should be added during the second stage and at a temperature around the softening point of the resin. The methylene donors, such as HMT or HMMM, should be added together with sulfur and accelerators at the final mixing stage.

Packaging
25 Kg (Net weight) in paper bags

Shelf Life
1 Year from the date of manufacture under the normal storage conditions

Storage
Store in a cool and dry storage area in original sealed container

Health and Safety Information
Before handling this material:
- Refer to the Safety Data Sheet (SDS) prior to use
- Wear gloves, safety glasses and dust masks
- In the case of skin contact, wash with soap and water.

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