

# RUBBOND® RR90

## TECHNICAL DATA SHEET

**Issue /Revision No**  
002/06

**Revision Date**  
01.12.2025

**Product**

RUBBOND® RR90

**Classification**

Reinforcing Phenolic Resin  
Reinforcing Phenol Formaldehyde Resin

**Composition**

Cashew nut shell liquid (CNSL) modified phenol – formaldehyde (PF) resins with low free phenol & without hexamethylene tetramine.

**Physical properties:**

Parameter	Specification
Physical Form	Red Brown Pastille

**Chemical Properties:**

Parameter	Specification	Test Method ASTM/RCPL
Sp. Gravity @25 °C	1.16±0.05	D1817
Softening Point, °C (R&B, 5 °C/Min)	85 -105	D6493/ E28
Melting Point, °C (Final)	66-76	D1519/T01
Moisture Content, % (Karl Fischer)	0.5 Max	E203/T-03-1
Ash Content, % (@950 °C, 1 Hr.)	0.5 Max	D4574
Free Phenol, (%)	2.0 Max	D1312/T-38A
IP Flow, @125°C, mm	130-160	D4242/T34

**Applications**

RUBBOND® RR90 resins 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, window sealing strips of cars, rubber rollers, floor coverings, brake linings, oil-resistant seals, heels and soles of shoes, hard hose materials, and typewriter / paper platen rollers.

As a reinforcing material, the use of RUBBOND® RR90 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 alkylphenol 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®RR90 resin should be used along with another methylene donor, such as hexamethylenetetramine (HMT) or hexamethoxymethylmelamine (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 % (by 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 first stage of mixing. The methylene donors, such as HMT or HMMM, should be added together with sulfur and accelerators at the final mixing stage.

RUBBOND®RR-90 resin is recommended as a processing aid and reinforcing resin for NBR compounds and adhesives. With the addition of hexamethylenetetramine, RUBBOND® RR resins impart maximum reinforcement and heat resistance properties in synthetic elastomers, especially NBR compounds and adhesives.

**Packing**

25 Kgs. In HDPE laminated paper bag

**Shelf Life**

12 Months from the date of manufacture under the normal storage conditions

**Storage**

Store in a cool and dry storage area in original sealed bag.

**Health and Safety Information**

Before handling this material Refer to the Safety Data Sheet (SDS) prior to use.

**REACH Compliance:**

Material is meeting the REACH compliance.

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