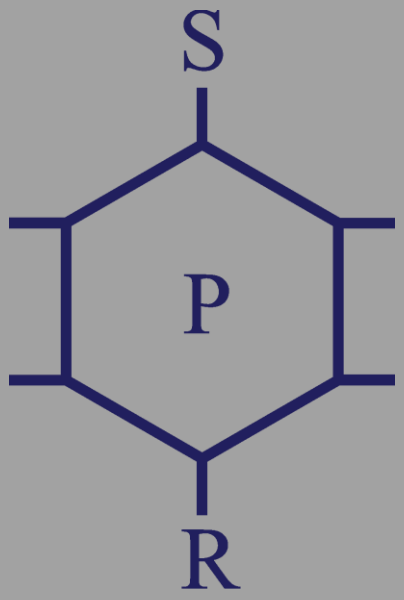
RESINS



About Us

Singh Plasticisers & Resins (I) Pvt. Ltd. (SPR) is an **ISO 9001:2008** certified manufacturer and exporter of ***POWERPLAST*** brand Rubber Processing Chemicals.

ISO 9001
International Standards Certifications

SPR is located in New Delhi, India with our manufacturing facility in the neighbouring state of Rajasthan.

SPR is a leading manufacturer of Dry Bonding Chemicals in India and second only to Indspec Chemical Corp in the production of Resorcinol based resins globally.

SPR is a privately held company run by professionals with decades experience in companies like GE Plastics, Motorola, IBM etc.

SPR is a Government of India recognized Export House.

MANUFACTURER EXPORTER

भारत सरकार
GOVERNMENT OF INDIA
वाणिज्य एवं उद्योग मंत्रालय
MINISTRY OF COMMERCE & INDUSTRY
कार्यालय, मंडलीय संयुक्त महानिदेशक, विदेश व्यापार
OFFICE OF THE ZONAL JOINT DIRECTOR GENERAL OF FOREIGN TRADE
मान्यता प्रमाण पत्र
Certificate of Recognition
निर्यात सदन
EXPORT HOUSE

मैसर्स _____

(आई ई सी सं. _____ और आयकर पैन सं. _____)
को विदेश व्यापार नीति, 2004-2009 के प्रावधानों के अनुसार निर्यात सदन का स्तर प्रदान किया जाता है। यह प्रमाण पत्र 1 अप्रैल _____ से 31 मार्च _____ तक _____ वर्षों की अवधि के लिए वैध है।

M/s SINGH PLASTICISERS & RESINS (I) PVT. LTD.,
S-316, BOMBAY SHANGHAI, 3RD FLOOR, SHIVAJI RAMA PLACE, ND-110062
(IEC No. 0597016771 and Income Tax PAN No. AAACM1544R.....) are hereby accorded the status of Export House in accordance with the provisions of the Foreign Trade Policy, 2004-2009. This Certificate is valid for a period of FIVE years effective from 1st April 2009 to 31st March 2014, HOWEVER, THIS CERTIFICATE SHALL CONTINUE TO REMAIN IN FORCE, IN CASE PROVISIONS OF FTP 2009-14 CONTINUE TO RECOGNIZE THIS STATUS.

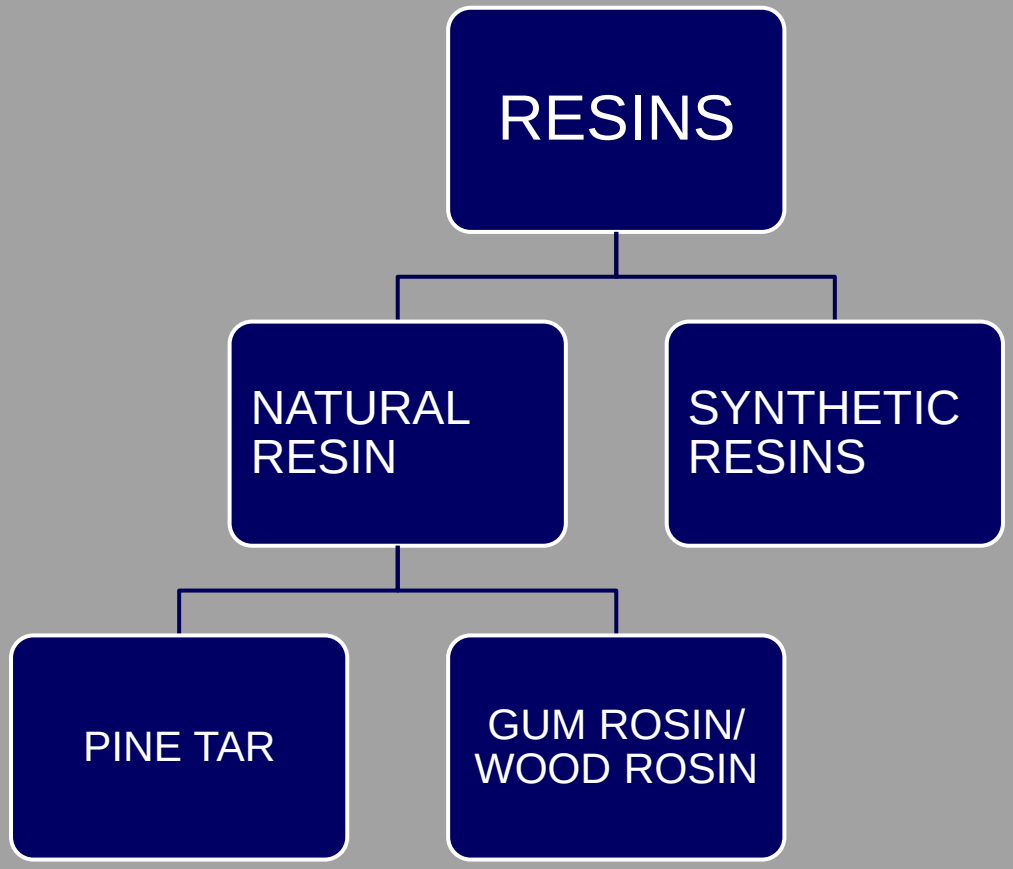
No. A-1223
Date 27.07.2009
Place NEW DELHI

(SANJAY KASTWAL)
मंडलीय संयुक्त महानिदेशक, विदेश व्यापार
ZONAL JOINT DIRECTOR
GENERAL OF FOREIGN TRADE

(फाइल सं. / FILE NO. 05/75/105/00009/AM09/ZJD/NRL)

TYPES OF RESINS

POWERPLAST



SYNTHETIC RESINS

POWERPLAST

- HYDROCARBON RESINS
- CI RESINS
- PHENOLIC RESINS

HYDROCARBON RESINS

Also called PETROLEUM RESINS

- C5
- C9
- C5/C9

USES: Tackifiers, Adhesives, Paints, Inks

BENEFITS: Low Color, Hypoallergenic, Low Cost

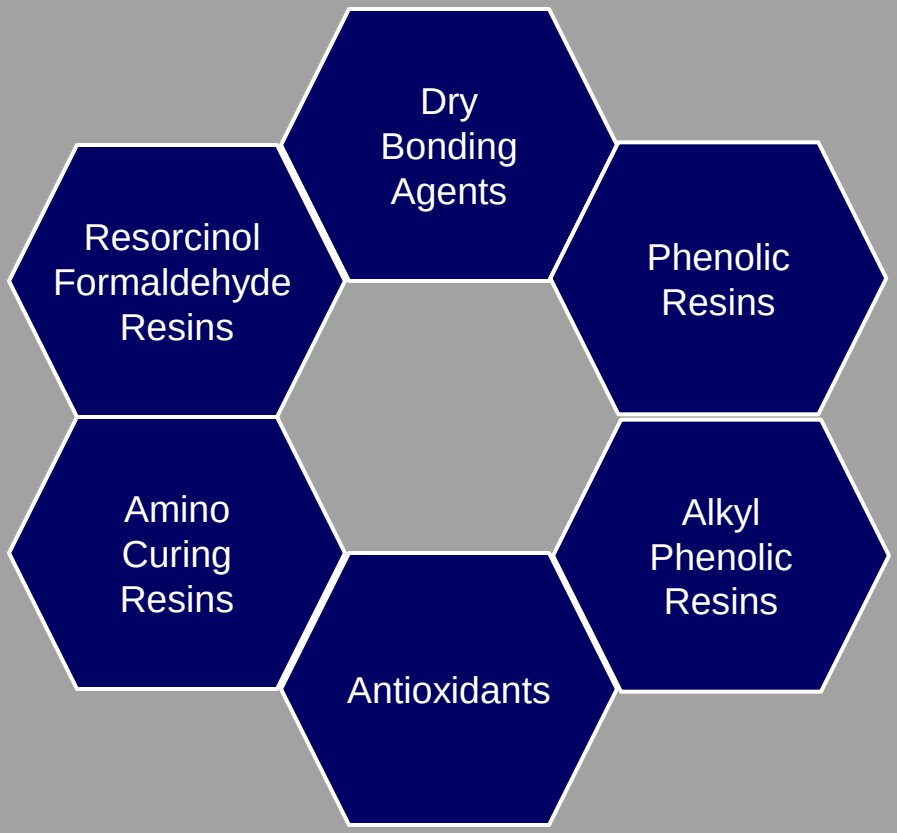
LIMITATIONS: Inadequate performance unless used with other kinds of resins.

POWERPLAST

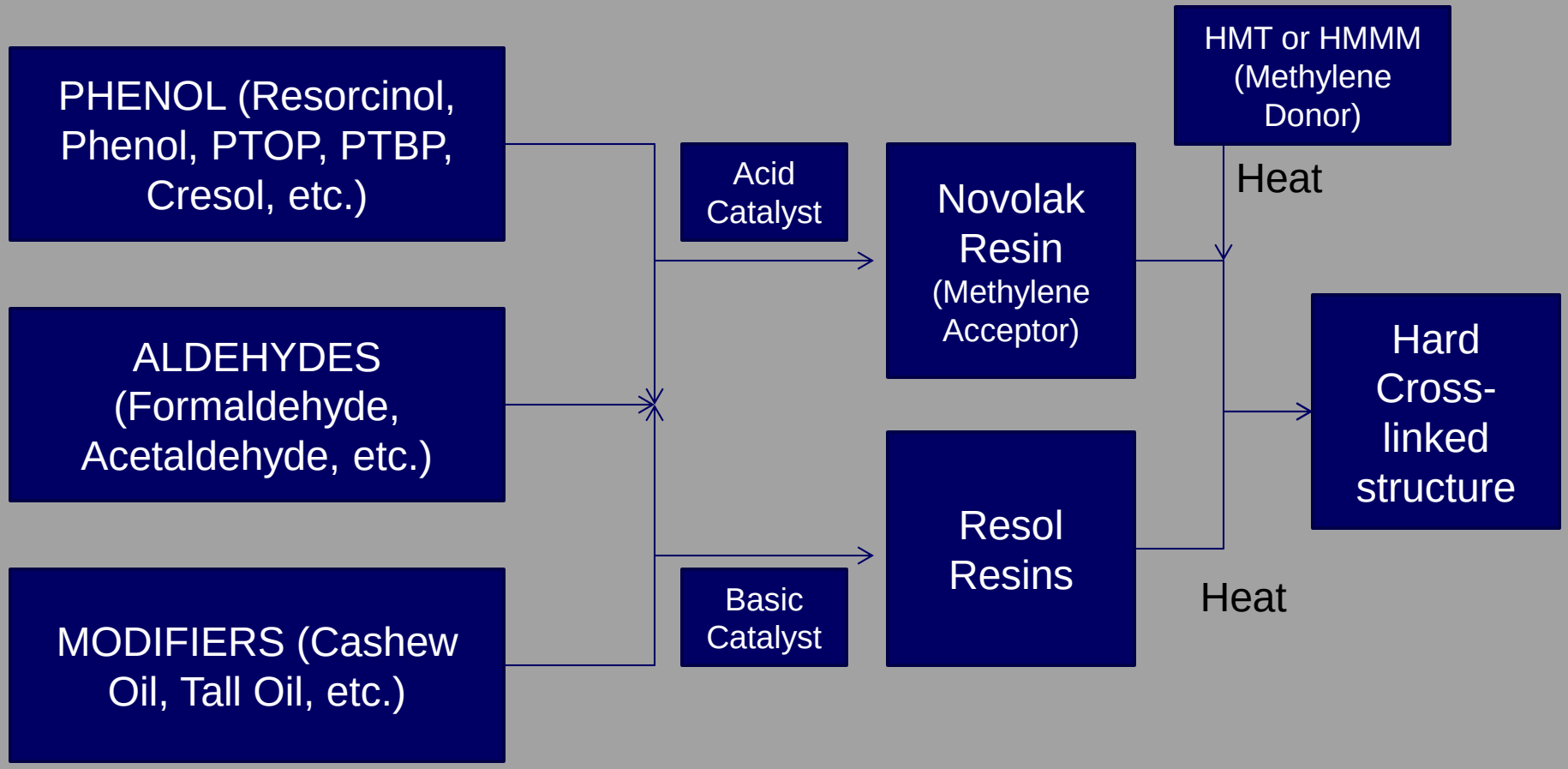
COUMARONE INDENE RESINS

- Made with a combination of Coumarone and Indene products.
- Raw materials have some unsaturation
- Different ratios for different melting points
-
- USES: Linoleum, Glues, Adhesives, Artifical Leather, Insulating Tape, Tackifiers
- BENEFITS: Wide compatibility, Torque improvement on curing

Product Categories



PHENOLIC RESINS



Characterization of Resins

POWERPLAST

Property	Test Method
Novolak Resin – Pastilles/Flakes	
Softening Point	Ring and Ball method
Melting Point	Capillary test method
Specific Gravity	Auto densitometer
Free Phenol	Gas Chromatography/Kjeldhal Distillation
Volatile Content	Loss in weight upon heating
Two-Stage Powder Resins	
Gel Time	Time to gel on a hot plate
Inclined Plate Flow	Prepared tablet flow length at constant temperature
Hexa Content	Kjeldahl and Perchloric acid

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Phenolic Resin Applications

Novolak Resins

Reinforcing Resins

Tackifiers

Bonding Resins

Resol Resins

Curing Resins

Rubber Compound

Reinforcing Resins

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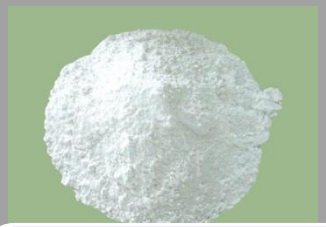
- Offers Increased Abrasion resistance
- Increased Initial Tear resistance
- Improved Heat resistance
- Improved Oil and solvent resistance
- Reduced Residual Compressive set



Powder Resins (pre-mixed Hexa or HMMM)

- Cashew Oil modified
- Tall Oil modified
- Pure phenol based

- Fine particle size – ease of mixing
- Added at end of mixing cycle to prevent scorch
- Short shelf life

Novolak Resins

(no Hexa or HMMM pre-mixed)

- Cashew Oil modified
- Tall Oil modified
- Pure phenol based

- Longer Shelf life
- Can be mixed at higher temperatures
- Hexa or HMMM added in the second stage

Cashew Oil Modification

POWERPLAST

PP-1811, PP-1811N

Rubber Reinforcing

- High compatibility with NBR
- Used extensively in Rice rollers, Bead wire, etc.
- Acts as plasticizer during mixing cycle ; reduces compound viscosity
- X-links with Hexa Improves
  - Hardness, Tear Strength
  - Abrasion
  - Stiffness

Brake Linings

- Preferred Resin for Brake Linings
- Improves
  - Heat dissipation
  - Reduces Fade
  - Water repellance
  - Cold-wear

Tall Oil Modification

PP-1817, PP-1817N

Rubber Reinforcing

- High compatibility with SBR, Natural Rubber
- Used extensively in Bead wire compound, etc.
- Acts as plasticizer during mixing cycle ; reduces compound viscosity
- X-links with Hexa Improves
  - Hardness,
  - Tear Strength
  - Abrasion
  - Stiffness

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Unmodified Phenolic Resins

PP-1818
PP-1818LS

- Novolak with very low residual free phenol
- High viscosity – no plasticization during mixing
- Lower color and higher hardness than modified resins
- X-links with Hexa Improves
  - Hardness,
  - Tear Strength
  - Abrasion
  - Stiffness

PP-1819
PP-1910

- Powder form with Hexa (HMT) pre-mixed
- Plastisol and Butyl based adhesives for sheet metal bonding-to-profiles with lower %HMT

Reinforcing Resins

POWERPLAST

For Ease of Processing
Cashew modified > Tall Oil Modified > Unmodified

For Hardness
Unmodified > Tall Oil Modified > Cashew modified

Cashew Modified	Tall Oil Modified	Unmodified
NBR, Chloroprene, EPDM	SBR, Natural, EPDM	Natural, SBR, NBR, EPDM

Alkyl Phenolic Resins

POWERPLAST

Novolaks

PP-1820

PP-1825, PP-1825M, PP-1825SY

PP-1827, PP-1827HT

PP-1924

- Primary use is Tackifiers for synthetic and Natural rubber – provides ‘green tack’
- Higher softening point resin = improved tack
- PP-1827 improved long term tack
- Has no impact on cure characteristics
- Used for Tyres, Hose, airspring, Conveyor and power transmission V-belts

Resols

PP-1813

PP-1815

- PP-1815 Curing of Butyl Rubber for tyre bladders – Heat stable curing
- PP-1815, PP-1813 Neoprene/NBR based adhesives, sealants, etc. – Heat stable contact adhesives

Tackifier Resins

POWERPLAST

Tack Effectiveness
High SP Phenolic Resins > Phenolic Resins > HC/Rosin/CI

Tack Effectiveness
PP-1825, PP-1825M, PP-1827 > PP-1825SY, PP-1827HT

- High initial Tack with Better Tack Retention.
- Better Heat and Humidity performance.
- Lower loading levels to achieve the same degree of
- Compounds with less HEAT BUILD-UP.
- Higher modulus with lesser loss of rebound resistance

- PP-1924 – Similar chemistry to KORESIN

POWERPLAST

Resorcinol Formaldehyde Resins

RF Resins
PP-1860
PP-1861T
PP-1875L

- Reduced fuming of Resorcinol during mixing
- Adhesive bonds resistant to heat and humidity ageing
- Available as aqueous solutions for cord-dipping

Modified RF Resins
PP-1863
PP-1861
PP-1961
PP-1870

- Modifications to reduce the content of free Resorcinol
- Reduced moisture absorption

Form cross-linked structures on curing with Methylene Donors like PP-1891 (HMT) , PP1890 (HMMM)

Dry Bonding Chemicals

POWERPLAST

PP-1830

- Resorcinol Silica blend
- Reduced fuming of Resorcinol during mixing
- Best suited for V-belts, conveyor belts, tyres, Hoses, rubberized fabrics
- Commonly used along with PP-1891 (HMT)

PP-1850

- Resorcinol Stearic Acid melt
- Reduced fuming of Resorcinol during mixing
- Improved Handling
- Lower Energy consumption during mixing
- Improved Dispersion

Form cross-linked structures on curing with Methylene Donors like PP-1891 (HMT) , PP1890 (HMMM)

POWERPLAST

Advanced Bonding Chemicals

PP - 1845

- Blocked Isocyanates
- Ideal for bonding with untreated Polyester fiber
- Heat activated – Stable until “unblocked”

PP - 1895

- Cobalt Adhesion Promoter
- Enhanced bond strength with brass-coated steel compared to RFS systems

Durable Bond Strength with Brass-coated steel

PP-1830, PP-1850 + PP-1891/PP-1890

RF resins + PP-1890

PP-1861T + PP-1890 + PP-1895

Amino Curing Resins

POWERPLAST

PP-1891

- Hexamine or Hexamethylene Tetramine
- Pre-dispersed forms for efficient distribution in rubber compound

PP-1890

- HMMM Hexamethoxy methyl melamine
- Better suited for Polyester and steel wire applications

Added during second stage of mixing with Sulphur and accelerators

Customer Base

POWERPLAST resins and tackifiers are used widely in the rubber products manufacturing industry for Tires, Hoses, Conveyor and transmission belts, Industrial fabrics, rollers, adhesives and sealants, etc.

POWERPLAST products are approved and accepted by global customers as a result of our world-class quality and consistency.

SPR is a supplier for global locations of several international manufacturing giants such as, Continental AG, Apollo tyres, Henkel Adhesives Technologies, Cooper Standard, etc.

We currently supply to clients all over the globe, specifically in India, USA, South America, EU, China, South-East Asia, Africa and the Middle East.

Amongst Our Customers:

POWERPLAST

POWERPLAST

Markets Serviced:













REACH registration

SPR is committed to complying with all REACH registration guidelines.

Several **POWERPLAST** products are in various stages of registration activities.

Contact Us

POWERPLAST

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