



Techno Waxchem Private Limited

Hi Tech Chambers
5th Floor, 84/1B, Topsia Road (S)
Kolkata - 700046, West Bengal, India

P: +91 33 2285 1278
P: +91 33 4004 8093 / 8094
F: +91 33 2285 1280

Rajsha Chemicals Private Limited

Block No. 637, Lamdapura Road
At: Manjusar, PO: Lamdapura
Ta: Savli Dist, Vadodara - 391775
Gujarat, India

P: +91 96620 49271

M: info@twc.in | W: www.twc.in



AMINO RESINS
POLYMER BOUND CHEMICALS
OZONE PROTECTION WAXES
RESORCINOL RESIN & DISPERSIONS
TACKIFIERS
HMT DISPERSIONS
SUPER TACKIFIER
PROCESS AIDS
DIPPING RESINS
HOMOGENISERS
BLACK HOMOGENISERS
SPECIALTY CHEMICALS
MODIFIED DCPD RESIN
HMMM RESINS
PROCESSING AIDS
PLATEAU WAX



www.twc.in

DISCOVER TWC GROUP

Exceeding Expectation & Synergising Sustainability

We are a recognised technology leader in specialty resins, bonding chemicals, processing additives, ozone protection waxes in the Indian Sub-Continent.

TWC Group (Techno Waxchem Pvt Ltd, Kolkata & Rajsha Chemicals Pvt Ltd, Vadodara) is an eminent technology leader in manufacturing niche specialty rubber chemicals i.e. bonding chemicals, adhesion promoters, homogenisers, processing additives, ozone protection waxes, performance enhancing sustaining resins, polymer bound chemicals, tackifiers, carbon coupling agent, reinforcing phenolic resins etc.

Established by our Founder and CMD, Shri Sushil Agarwal in the year 1991, the organisation has grown multi-fold and multi-locational over 35 years of existence. The journey that started with a base in Kolkata, East of India has now spread to the West of India, Vadodara. From a humble beginning to 100 KTA installed capacity, encompassing 19 product verticals, including 70 products, it is a proud moment for all TWC family members. The growth & journey is ongoing. Our working philosophy is to aim for the sky and enjoy every moment of success in the journey, learn from set-backs and ensure to create value for the organisation and society. Activities are focussed around Make in India and supply to the world. We are a trusted one stop solution provider for advanced chemicals catering to the global rubber and tire industry.

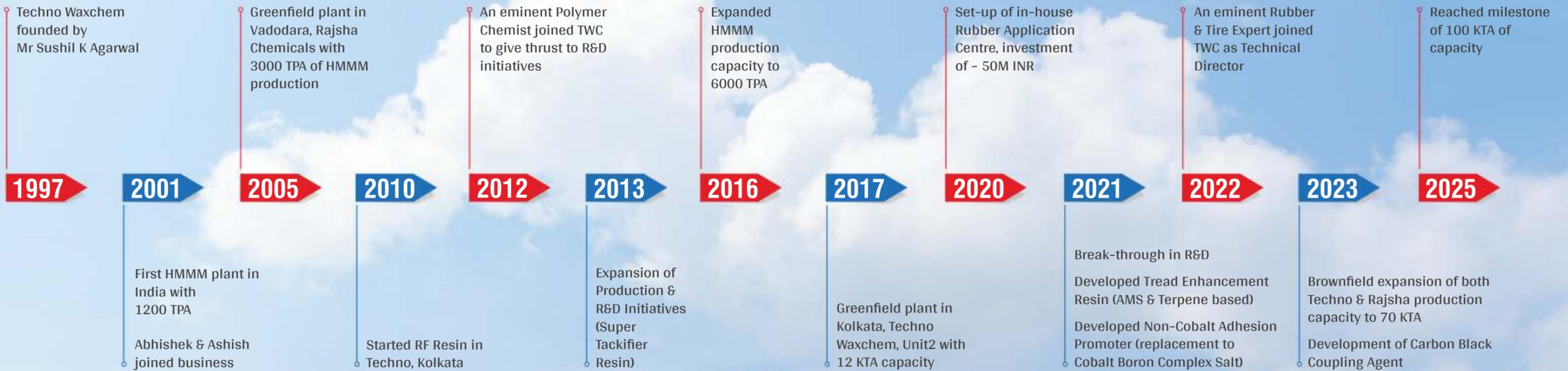
We have grown in all spheres of business – revenue, production capacities, manufacturing locations, customer base – local to global, product verticals & number of products in each vertical, employee strength and ESG responsibilities and deliveries.

-  Sustainable manufacturing
Minimize CO₂ footprint
-  Exports to 35 countries
-  19 Product Verticals
> 70 products
-  1 Rubber Application
Research Centre
-  3 R&D Centres
-  3 Manufacturing Plants
100 KTA Capacity

RAJSHA CHEMICALS PVT. LTD.	TECHNO WAXCHEM PVT. LTD. UNIT 1 & 2
VADODARA Gujarat	KOLKATA West Bengal
	
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GLORIFIED HISTORY



Our journey has been defined by disciplined capacity expansion, innovation led growth and strong industry recognition.

FUTURE BEHOLDS

As TWC accelerates its growth trajectory, we are committed to expanding our specialty chemical portfolio with innovative solutions tailored to emerging industry challenges. Operational excellence across our three manufacturing facilities remains central to our strategy, enabling faster delivery, superior consistency, and improved margins.

We aim to establish market leadership across every segment we serve from tire performance resins to adhesion promoters - while translating our cutting-edge R&D innovations into full-scale commercial products that drive measurable impact for our customers and partners globally.



OUR COMMITMENT TO MOTHER EARTH



At TWC, sustainability is not an add-on; it is integral to how we design our chemistry and operate our facilities. Our current 3 MW solar capacity is planned to expand to 10 MW by 2030. With 90% of our process fuel sourced from agro-based inputs and 70% of our water needs met through rainwater harvesting, we significantly lower our environmental footprint. This unwavering focus on responsible manufacturing enables us to deliver industry-leading environmental performance for every ton of specialty chemicals supplied to the global tire industry.

RESPONSIBILITY BUILT INTO EVERY BATCH

Quality at TWC isn't a checkbox — it's foundational to who we are and how we operate.

We operate with zero defect manufacturing philosophy supported by robust quantity control systems across all facilities, earning recognition as an industry benchmark for consistency, reliability, and operational excellence. Our comprehensive quality assurance framework spans every stage — from rigorous raw material testing and supplier validation, through in-process monitoring, to finished product certification.

We employ real-time quality gateways and key performance indicators at critical control points, ensuring that every batch meets the exacting standards our global customers demand. We believe responsible manufacturing begins with transparent oversight, continues through meticulous process control, and culminates in measurable impact, superior product performance, uncompromising customer trust, and sustainable, long-term growth for all stakeholders.

This commitment to quality is non-negotiable and defines the TWC promise.

CERTIFICATIONS

ACCREDITATION



ISO 9001:2015



ISO 14001:2015



ISO 45001:2018



IATF 16949:2016



ISO 14064

COMPLIANCES & ADHERENCE



Reach Compliance



SVHC



RoHS



Circular Economy



LCA - PCF

ESG MANDATES



Ecovadis Silver



ISCC Plus



UNGC - Network India



SBTI



COP26

CORPORATE SOCIAL RESPONSIBILITY

TWC Group proudly stands as a beacon of social responsibility, prioritizing impact alongside Financial growth. Beyond the bottom line, it believes in contributing positively to the communities it touches and embracing initiatives that make a lasting impact. TWC Group runs a few CSR activities that are spread across healthcare, education and infrastructure for research & development. In the last 3 years, TWC has contributed over USD 1M in multiple projects, including:

- The establishment of the wet-chemistry laboratory at Dr D Banerjee Centre of Excellence (DBCoe); one great body of Indian Rubber Institute at Mysuru.
- The company has also contributed to residential school projects for unprivileged girls.
- A cancer hospital for setting up OT and ICU infrastructure.

- A primary school and other school for education of children having physical or mental disabilities.
- Along with this the group provided an ambulance for the welfare of senior citizens and is engaged in the welfare of animals.

“Our commitment in contributing to societies welfare is an overbearing responsibility. CSR in an ongoing focused area for us and we are having more plans in place, which are going to be executed soon.”



DBCoe, Mysuru



Adhigam Bhoomi



Hariyana International Academy



Medical Facilities

MANUFACTURING CAPABILITIES

TWC Group has completed its latest capacity expansion and, as of 2025, operates with an installed production capacity of around 100 KTA across multiple state-of-the-art plants in eastern and western India. Our facilities are designed for high-throughput, consistent manufacturing of specialty rubber chemicals and resins, serving leading tire and rubber product manufacturers worldwide.

Every production line is governed by rigorous process controls, robust quality assurance systems, and full batch traceability to meet demanding global standards and customer-specific specifications. Backward integration, including our in-house formaldehyde plant for resin manufacturing, strengthens supply security, improves cost efficiency, and ensures uniform product quality across all sites.

Advanced automation and monitoring systems give our plants the agility to scale new chemistries rapidly from pilot to commercial volumes while maintaining repeatable performance. Close collaboration between manufacturing, R&D, and application labs enables swift technology transfer, efficient process optimization, and reliable just-in-time deliveries.



Manufacturing Facility - Techno Waxchem, Kolkata



Manufacturing Facility - Rajsha Chemicals, Vadodara

RESEARCH & DEVELOPMENT

Developmental capability is the backbone of TWC Group. Our expertise in R&D, Technology Application and Customer Service has been appreciated by our customers.

The group has specialist and experts in the form of technical and research doctorates having synergy with adequate numbers of team members in our 3 R&D Centre and 1 exclusive Rubber Application Centre.

In 2017, we invested - 50M INR in state-of-the-art Rubber Application Centre at Kolkata. This centre is armed with major equipment, much needed for simulating applications.

The ever-changing dynamics of tire rating and upcoming regulations, industry is engaged in developments of products targeting the Magic Triangle norms. The magic triangle of tire performance engulfs all characteristic of advancement and improvement of Tire Performance - Fuel Economy - Safety. An equilibrium in achieving all these factors coupled with usage of sustainable materials is the future.



INDUSTRIES WE SERVE



DISTRIBUTORS IN INDIA



GLOBAL BUSINESS

50% revenue comes in from 35 countries. Our export growth is a compounding of new product – new customers, new product – existing customers, existing product – new customers.



PRODUCTS

FEW PRODUCT VERTICALS TWC GROUP OFFERS INCLUDE

Adhesion Promoters

- Resorcinol Resin & Dispersions
- HMMM Resin & Dispersions
- HMT Dispersions
- Dipping Resins

Tackifier & Super Tackifier Resins

- General Purpose Tackifier
- Super Tackifier
- Sustainable Tackifier

Homogenisers

- Black Homogenisers
- Non-Staining Homogenisers

Process Aids

- Multi-functional Process Aids
- Very High Silica Dispersants
- Sustainable, Vegetable Fatty Acid based

Tread Performance Enhancement Resins

- Poly AMS Resins
- Terpene Phenolic Resins
- Poly Terpene Resins

Non-Cobalt (Zinc based) Adhesion Promoter

Coupling Agent for Natural Rubber and Carbon Black

- Reduce Rolling Resistance

Ozone Protection Waxes

- Single Peak (Mono-Modal) Waxes
- Bi-Modal Waxes
- Plateau Wax
- High Temperature Wax

Modified DCPD Resin for Improvement of Cutting & Chipping of OHT Tires

Reinforcing Phenolic Resins (without and with HMT)

- Tail Oil Modified PF Resins
- CNSL Modified PF Resins
- Straight PF Resins
- Alkyl Phenol Mod PF Resins

Sustainable Modified Gum Rosin

Resin for Chloroprene Adhesives

Polymer Bound Chemicals

- Resorcinol 80
- HMT80
- Pb080

Amino Resins



Adhesion Promoter – Methylene Acceptor

Active member of Dry Bonding System for textile / metal cord or fabric.

RESORCINOL DISPERSIONS

Product	Appearance	Composition	Specific Gravity @ 25°C	Active Content (%)	Ash Content (%)	Moisture Content (%)	Typical Usage (phr)	Function & Application
Technic® RSB11	White to Red Brown Powder	Resorcinol and Precipitate Silica Blend	1.56	48 - 52	44 - 46	3.5 max	4 - 5	Resorcinol dispersed on carriers is designed to give easier mixing in rubber compounds at masterbatch stage.
Technic® ARSB	White to Red Brown Powder	Derivative of Resorcinol and Precipitate Silica Blend	1.56	48 - 52	44 - 46	3.5 max	3 - 4	Alkyl-Resorcinol dispersed on carrier. It is to be mixed in master-batch stage.
Technic® RL	Orange to Red Brown Liquid	Resorcinol and HMMM	1.2	89 - 93	nil	3.0 max	3 - 4	Single Component Bonding System with both Resorcinol & Methylene Donor present.
Technic® RDL	White to Brown Powder	Resorcinol, HMMM & Silica Blend	1.5	64 - 68	27 - 33	3.0 max	3 - 4	Single Component Bonding System with both Resorcinol & Methylene Donor dispersed on Silica.
Product	Appearance	Composition	Specific Gravity @ 25°C	Active Content (%)	Softening Point (°C)	Moisture Content (%)	Recommended Dosage (phr)	Function & Application
Rubbond® RSA	Off White Grey to Red Brown Flakes	Resorcinol and Stearic Acid Melt	1.10 - 1.30	65 - 69 *	100 - 110	0.3 max	4 - 5	* Other variation of 75% & 80% Active content is also available.

RESORCINOL RESINS

Product	Appearance	Composition	Specific Gravity @ 25°C	Softening Point (°C)	Free Resorcinol (%)	Moisture Content (%)	Recommended Dosage (phr)	Function & Application
Technic® B18S	Orange Red to Brown Pastilles	Resorcinol Formaldehyde Resin	1.36	100 - 110	18 max	1.0 max	3 - 4	It is a reaction product of Resorcinol with Formaldehyde, reducing the free monomer content. Good for fabric, brass plated steel tyre cord and zinc plated steel cord adhesion to rubber.
Technic® B19S	Orange Red to Brown Pastille	Resorcinol Formaldehyde Resin	1.36	100 - 114	15 max	1.0 max	3 - 4	
Technic® B20S	Dark Red to Brown Pastille	Styrenated Resorcinol Formaldehyde Resin	1.24	99 - 109	5 max	0.7 max	3 - 4	
Technic® B21S	Red to Dark Brown Pastille	Styrenated Resorcinol Formaldehyde Resin	1.3	100 - 110	8 max	0.7 max	3 - 4	
Technic® B22Z	Dark Red to Brown Pastille	Styrenated Resorcinol Formaldehyde Resin	1.2	100 - 110	0.1 max	0.7 max	3 - 4	Very Low Free Resorcinol, no fuming at all. Very suitable for steel cord adhesion & fabrics.
Technic® B24S	Dark Red to Brown Pastille	Modified Resorcinol Formaldehyde Resin	1.24	90 - 100	0.1 max	0.7 max	3 - 4	Very Low Free Resorcinol, low fuming and good for fabric and steel cord adhesion compound & fabrics.
Technic® B22C	Dark Red to Brown Pastille	Styrenated Modified Resorcinol Formaldehyde Resin	1.24	99 - 109	0.1 max	0.7 max	3 - 4	Very Low Free Resorcinol, low fuming and good for fabric and steel cord adhesion compound & fabrics.

Adhesion Promoter – Methylene Donor

HMT DISPERSIONS

Product	Appearance	Composition	Specific Gravity @ 25°C	Active Content (%)	Ash Content (%)	Moisture Content (%)	Typical Usage (phr)	Function & Application
Rubbond® SCH	Free Flowing White Powder	Hexa Methylene Tetramine on Carrier	1.27	97 min	3 max	0.5 max	2 - 4	It offers a balanced combination of good adhesion and excellent flex fatigue resistance in conjunction with Resorcinol acceptor through formation of an in-situ resin during rubber processing. Ideally it is added in the last stage of mixing with Sulphur & Accelerators.
Rubbond® OSCH	Free Flowing White Powder	Hexa Methylene Tetramine on Carrier & Oil	1.27	90 min	4 max	0.6 max	2 - 4	

HMMM RESIN & DISPERSIONS

Product	Appearance	Composition	Specific Gravity @ 25°C	Active Matter (%)	Ash Content (%)	(%) Free Formaldehyde	Typical Usage (phr)	Function & Application
Rubbond® HM100	Clear Viscous Liquid	Hexa Methoxy Methylol Melamine (HMMM) Resin	1.2	98	nil	0.1 max	3 - 4	HMMM (Methylene Donor) is expected to provide about 5 - 6 methylene group to make cross-linking reactions with Resorcinol bonding system in rubber compounds. HMMM improves processability of uncured rubber compounds. It enhances the physical, mechanical and dynamic properties of cured rubber compounds.
Rubbond® HM72C	Free Flowing Powder	72% HMMM on Calcium Silicate	1.41	71 - 73	21 - 29	0.1 max	4 - 5	
Rubbond® HM72	Free Flowing Powder	72% HMMM on PPT Silica	1.41	71 - 73	23 - 29	0.1 max	4 - 5	It helps in maintain higher levels of adhesion after heat, humidity, steam and salt water ageing of rubber compounds. HMMM does not produces ammonia from the curing reaction and therefore, it is the methylene donor of choice for polyester and brass-coated steel cords reinforced rubber compounds.
Rubbond® HM650	Free Flowing Powder	65% HMMM on PPT Silica & Oil	1.41	64 - 66	26 - 30	0.1 max	4 - 5	
Rubbond® HM65	Free Flowing Powder	65% HMMM on PPT Silica	1.41	64 - 66	31 - 35	0.1 max	4 - 5	HMMM is a liquid material, for ease of handling it is dispersed on Silica.
Rubbond® HM50	Free Flowing Powder	50% HMMM on PPT Silica	1.41	49 - 51	43 - 47	0.1 max	4 - 5	

NON-COBALT ADHESION PROMOTERS

Our innovative product replacing classical cobalt salts. Bonding agent for metal to rubber bonding.

Product	Appearance	Composition	Specific Gravity @ 25°C	Ash Content (%)	Zinc Content (%)	Moisture (%)	Typical Usage (phr)	Function & Application
Techbond ZN30	White free flowing powder	Zinc Salt of Carboxylic Acid dispersed on Silica	1.53	58 - 60	5 - 6	13 - 16	2.85 min	Non-Cobalt, Zinc based adhesion promoter for steel cord adhesion compound
Techbond ZU40	White free flowing powder	Zinc Complex Salt dispersed on Silica	1.48	54 - 56	4 - 5	9 - 11	3.65 min	

RESORCINOL DIPPING RESINS

An in-situ resin for dipping purpose. It reduces the maturation time involved for Resorcinol Formaldehyde reaction in the process of dipping while mixing it with latex.

Product	Appearance	Composition	Specific Gravity @ 25°C	Solids Content (%)	Free Resorcinol (%)	pH	Typical Usage (phr)	Function & Application
Technic® R75	Orange Red Viscous	Resorcinol Formaldehyde Resin in Aqueous Solution	1.2	75	14 - 16	0.5 - 1.50	8 - 10	RFL dips prepared from the pre-formed RF Resin solutions showed better adhesion performance in nylon, aramid & polyester tire cords. R50 & R75 can directly be added to the latex without ageing. Due to low viscosity of R50 resin solution, pumping is easy.
Technic® R50	Orange Red Liquid		1.17	50	9 - 10	1.0 - 2.0	8 - 10	

REINFORCING PHENOLIC RESINS

Our reinforcing phenolic resins are engineered to enhance hardness and overall durability performance.

Product	Appearance	Composition	Specific Gravity @ 25°C	Softening Point (°C)	Ash Content (%)	Free Phenol (%)	Typical Usage (phr)	Function & Application
Rubbond® RR90	Pastilles	CNSL Modified Phenol Formaldehyde Resin	1.1	80 - 105	0.5 max	2 max	5 - 15	It improves hardness, tear resistance, abrasion resistance, tensile strength, reduce Mooney Viscosity and prolonged scorch time properties in rubber compound. CNSL, Tall Oil & Alkyl-Phenol modification of PF Resin are expected to have better compatibility with rubber compounds so that accelerated filler dispersions with improved processability of rubbers could be achieved. To avoid pre-vulcanisation and also to achieve good scorch properties, these resins are to be added as Methylene Acceptors in the first stage with a Methylene Donors like HMMM or HMT, which is added in the final stage alongwith Sulphur & Accelerators.
Rubbond® RR95	Pastilles	Tall Oil Modified Phenol Formaldehyde Resin	1.05	90 - 105	0.5 max	2 max	5 - 15	
Rubbond® RR110	Pastilles	Phenol Formaldehyde Resin	1.1	90 - 120	0.5 max	2 max	5 - 15	
Rubbond® RR160	Pastilles	Alkyl-Phenol Modified Phenol Formaldehyde Resin	1	101 - 113	0.1 max	1 max	5 - 15	
Product	Appearance	Composition	Specific Gravity @ 25°C	Softening Point (°C)	Ash Content (%)	HMT Content	Typical Usage (phr)	Function & Application
Rubbond® RR100H	Light to Tan Powder	Phenol Formaldehyde Resin with HMT	1.11	80 - 90	1.0 max	9 - 11	5 - 15	Reinforcing Phenolic Resin is always added with Methylene Donor. Since these products are already mixed with HMT, so it can be used directly. It improves hardness, tear, abrasion resistance and tensile strength of the compound.
Rubbond® RR95H	Light to Tan Powder	Tall Oil Modified Phenol Formaldehyde Resin with HMT	1.11	70 - 85	1.0 max	7 - 9	5 - 15	

CUT & CHIPPING RESISTANCE RESINS

Customized designed product for improvement of cutting, chipping and chunking of tire treads.

Product	Appearance	Composition	Specific Gravity @ 25°C	Softening Point (°C)	Ash Content (%)	Iodine Value	Typical Usage (phr)	Function & Application
Technic® CCR120	Pastilles	Modified DCPD, Rosin Co-Polymer	1.07	120 - 130	0.5 max	115 - 135	2 - 4	CCR resin provides high tensile, high elongation at break, good dynamic stiffness and elongation tear strength properties, resulting in improvement of cutting, chipping and chunking of tire treads.
Technic® CCR170	Hailstone or Lumps	Polymerised DCPD Resin	1.11	165 - 170	0.5 max	130 - 170	2 - 4	Designed with higher Tg value to impart better cohesive strength of adhesive and also contributes to rapid solvent release and faster drying of inks.

SUPER TACKIFIER RESINS

The product range is designed to give very high tack to green compounds. High softening point of our product supports in providing high initial tack coupled with maintaining tack over a longer period. Very suitable for ENE compounds with high dosage of Silica.

Product	Appearance	Composition	Specific Gravity @ 25°C	Softening Point (°C)	Ash Content (%)	Moisture Content (%)	Typical Usage (phr)	Function & Application
Technic® KR140	Yellow to Brown Pastilles	p-tert-butylphenol Acetaldehyde Resin	1.00 - 1.06	135 - 150	1.0 max	0.7 max	2 - 4	Super Tackifier for initial high tack and longer term tack retention. Very suitable for SBR compounds with higher dosage of Silica.
Technic® TR140	Yellow to Brown Pastilles	p-tert-butylphenol Formaldehyde Resin	1.00 - 1.06	135 - 145	1.0 max	0.7 max	2 - 4	High Performance Tackifier for initial high tack and long term tack retention.

TACKIFIER RESINS

General purpose tackifier resin

Product	Appearance	Composition	Specific Gravity @ 25°C	Softening Point (°C)	Ash Content (%)	Heat Loss (%)	Typical Usage (phr)	Function & Application
Technic® TR100	Yellow to Brown Pastille	p-octylphenol Formaldehyde Resin	1.00 - 1.04	95 - 105	0.1 max	0.5 max	2 - 10	General purpose Tackifier Resin for all purpose. It gives excellent initial tack.
Technic® TR90	Yellow to Brown Pastille	p-octylphenol Formaldehyde Resin	1.00 - 1.04	85 - 95	0.1 max	0.5 max	2 - 10	
Technic® TR1068	Yellow to Brown Pastille	p-octylphenol Formaldehyde Resin	1.00 - 1.04	90 - 100	0.1 max	0.5 max	2 - 10	

SUSTAINABLE TACKIFIER RESINS

Gum rosin has been used as a natural tackifier with some inherent issues. We have designed our sustainable tackifier resin as a combination of phenolic resin coupled with modified gum rosin to provide equal to better tack in comparison to standard tackifier used in the industry.

Product	Appearance	Composition	Specific Gravity @ 25°C	Softening Point (°C)	Ash Content (%)	Moisture Content (%)	Typical Usage (phr)	Function & Application
Technic® STR140	Yellow to Brown Pastilles	Gum Rosin modified Phenol Formaldehyde Resin	1.00 - 1.06	135 - 150	1.0 max	0.7 max	2 - 4	Super Tackifier for initial high tack and longer term tack retention.
Technic® STR100	Yellow to Brown Pastilles	Gum Rosin modified Phenol Formaldehyde Resin	1.00 - 1.04	95 - 105	1.0 max	0.5 max	2 - 10	General purpose Tackifier Resin for all purpose. It gives excellent initial tack.

OZONE PROTECTION WAXES

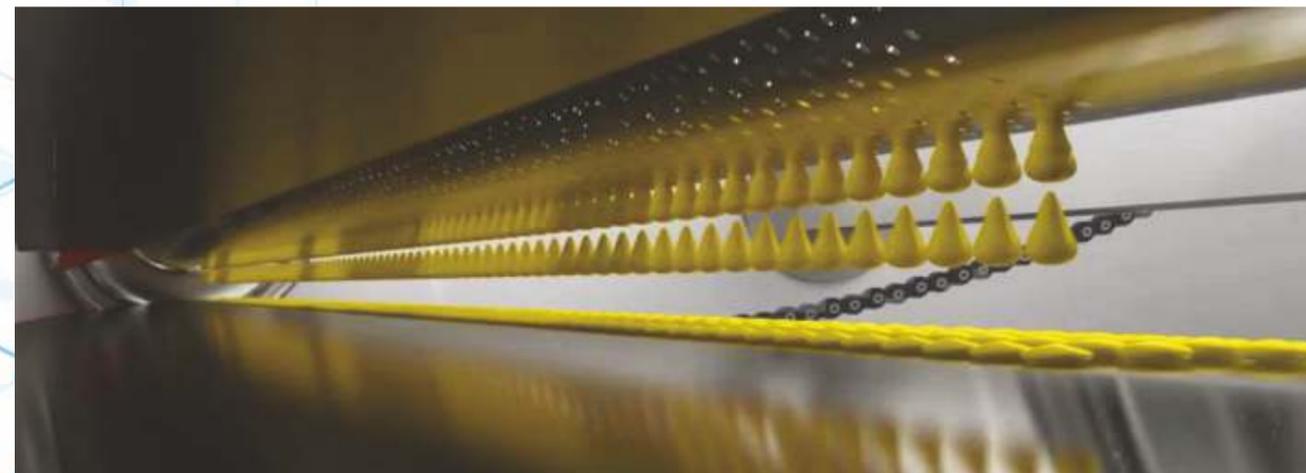
Blend of n-paraffin & iso-paraffin content leads to a perfect combination of wax suitable for rubber application. TWC has mastered the art of blending of waxes to suit tire & non-tire industry requirement for all temperature range, very low to high.

Product	Appearance	Composition	Specific Gravity @ 25°C	Congeealing Point (°C)	N-Paraffin Content	C Max	Typical Usage (phr)	Function & Application
Rubwax® 1220	White-light brown pastilles	Blend of n-Paraffin and Iso-Paraffin Waxes	0.86 - 0.94	60 - 70	60 - 70	-	2 - 5	General purpose ozone protection wax.
Rubwax® 1242	White-light yellow pastilles	Blend of n-Paraffin and Iso-Paraffin Waxes	0.92	70 - 78	65 - 75	24 - 26 31 - 33	2 - 5	Long term protection against ozone attack (very low and high temperature).
Rubwax® 1243	White-light yellow pastilles	Blend of n-Paraffin and Iso-Paraffin Waxes	0.92	68 - 78	65 - 75	25 - 26 31 - 33	2 - 5	Long term protection against ozone attack at wider range of temperatures.
Rubwax® 1244	White-light yellow pastilles	Blend of n-Paraffin and Iso-Paraffin Waxes	0.92	64 - 70	75 - 85	31 - 33	2 - 5	Protection against ozone attack, especially in a temperature range of 10 - 50°C.
Rubwax® 1250	White-light yellow pastilles	Blend of Paraffin and Iso-Paraffin Waxes	0.92	63 - 70	60 - 70	30 - 32	2 - 5	Protection against ozone attack, especially in a temperature range of 10 - 50°C.
Rubwax® 1252	White-light yellow pastilles	Blend of Paraffin and Iso-Paraffin Waxes	0.91	60 - 69	60 - 85	30 - 32	2 - 5	Protection against ozone attack, especially in a temperature range of 10 - 50°C.
Rubwax® 1253	White-light yellow pastilles	Blend of Paraffin and Iso-Paraffin Waxes	0.92	64 - 70	72 - 79	24 - 26 31 - 33	2 - 5	Protection against ozone attack, especially in a temperature range of 10 - 50°C.
Rubwax® 1257	White-light yellow pastilles	Blend of Paraffin and Iso-Paraffin Waxes	0.92	70 - 76	80 - 90	33 - 35	2 - 5	Protection against ozone attack at high temperatures.
Rubwax® 1259	White-light yellow pastilles	Blend of Paraffin and Iso-Paraffin Waxes	0.92	64 - 71	60 - 73	24 - 26 31 - 33	2 - 5	Long-term protection against ozone attack, especially in a temperature range of 10 - 50°C.
Rubwax® 1272	White-light yellow pastilles	Blend of Paraffin and Iso-Paraffin Waxes	0.92	64 - 70	-	30 - 33	2 - 5	Long term protection against ozone attack (very low and high temperature).

* Many more customized grades available

Type of Waxes	Type of Carbon Chain	Approach
Paraffin Wax	Linear carbon chain having C18 to C50 range. crystalline nature.	The higher the C#, the higher the molecular weight (MW), the higher the melt point, and finally, the higher the optimum ambient temperature needs to be for the wax to bloom.
Microcrystalline Wax	Extremely branched carbon chain having C30 to C80. amorphous nature.	Their complex structure resists migration to surface of rubber.
Blended Wax	Both chains available.	Waxes are formulated to achieve specific results by modifying the blooming characteristics of the wax.

Paraffin wax provides good ozone protection at lower temperatures whereas microcrystalline wax provides good protection at higher temperature. Blooming of wax to the surface depends on type of wax besides being governed by compound formulation and operating scenario. Thus blended waxes provide protection at wider range of temperatures and hence so many types of waxes offering UV and ozone protection in varied range of temperature.

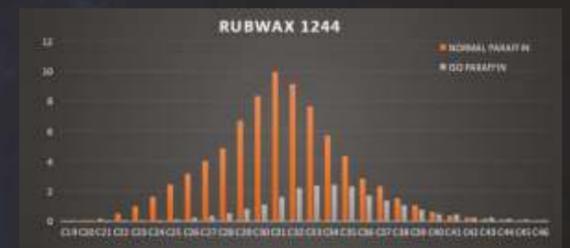


Elongated Product Life

Advanced rubber performance starts at the surface. TWC's customised rubber wax systems provide targeted protection against ozone, UV and environmental aging while preserving compound strength, flexibility and appearance. Optimised paraffinic blends and carefully tuned migration profiles create a uniform, self-renewing protective film that works reliably across diverse compounds, processing conditions and climates. From uni-modal and bi-modal waxes to high-temperature and specialty grades, every formulation is designed for predictable bloom, consistent performance and extended tyre and rubber durability-without unwanted heavy blooming or processing issues.

Engineered ozone protection for extended rubber life

Custom Formulation Through Controlled Carbon Distribution



Uni-modal Wax



Bi-modal Wax



Plateau Wax



High Temperature Wax

TWC's ozone protection waxes provide precise carbon chain distributions engineered to migrate consistently in diverse climates. This controlled migration ensures a uniform, self-renewing protective film that shields rubber compounds from ozone, UV, and environmental aging—delaying crack formation, preserving flexibility, and extending the life of rubber in all-weather.

TIRE ENHANCEMENT RESINS

Product	Appearance	Composition	Specific Gravity, g/cm ³	Softening Point, °C	Tg	Dosage (phr)	Function and Application
Terperes® SA85	Transparent to light yellow pastilles	Poly Alpha-Methyl Styrene Resin	1.10	80 - 90	33 - 43	10 - 30	PAMS Resin for replacement of Oil in Tread compounds. It improves Wet Traction of PCR tire treads.
Terperes® SA100	Transparent to light yellow pastilles	Poly Alpha-Methyl Styrene Resin	1.03	95 - 105	44 - 50	10 - 30	
Terperes® PT115	Beige to Brown pastilles / Flakes	Poly-Terpene Resin	0.90	110 - 120	60 - 70	10 - 30	Sustainable Poly-Terpene Resin. It improves Wet traction of PCR tire treads.
Terperes® PT125	Lt. Beige / Yellow / Brown / pastilles	Poly-Terpene Resin	0.90	120 - 130	65 - 75	10 - 30	
Terperes® TP115	Lt. Tan / Off White / Yellow / pastilles	Terpene Phenolic Resin	1.00	110 - 120	60 - 70	10 - 30	Sustainable Resin by a combination of Phenol & Poly-Terpenes. Improvement of Wet traction of PCT tire treads.

Three critical performance parameters

- Rolling resistance (RR): fuel economy
- Treadwear (TW) useful life of tire
- Wet traction (WT): grip on wet roads

Key tread components

- Rubber
- Oil - Aromatic oil replaced by Low PAH oils
- Filler

Performance trade-off

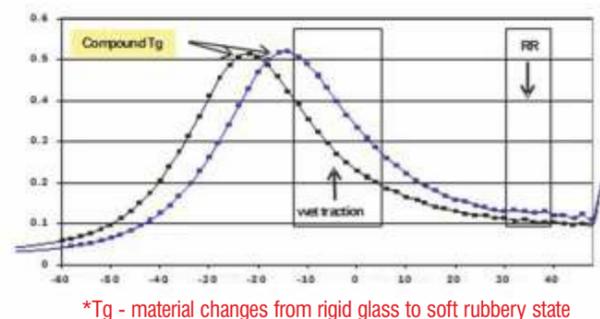
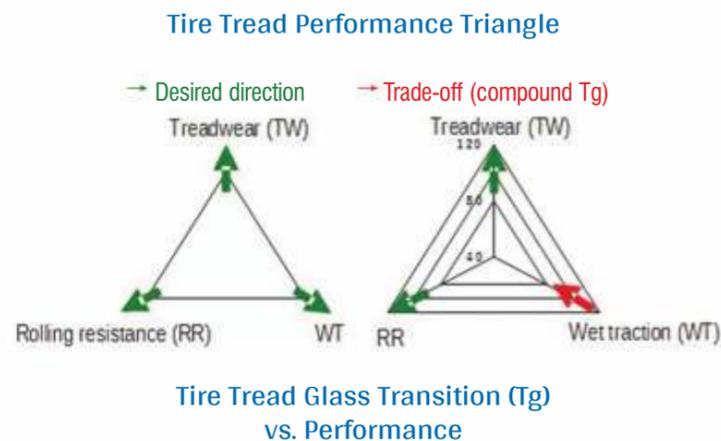
Compound Tg critical to performance

- High Tg materials improve wet traction
- High Tg materials hurt TW and RR

All components have trade-off

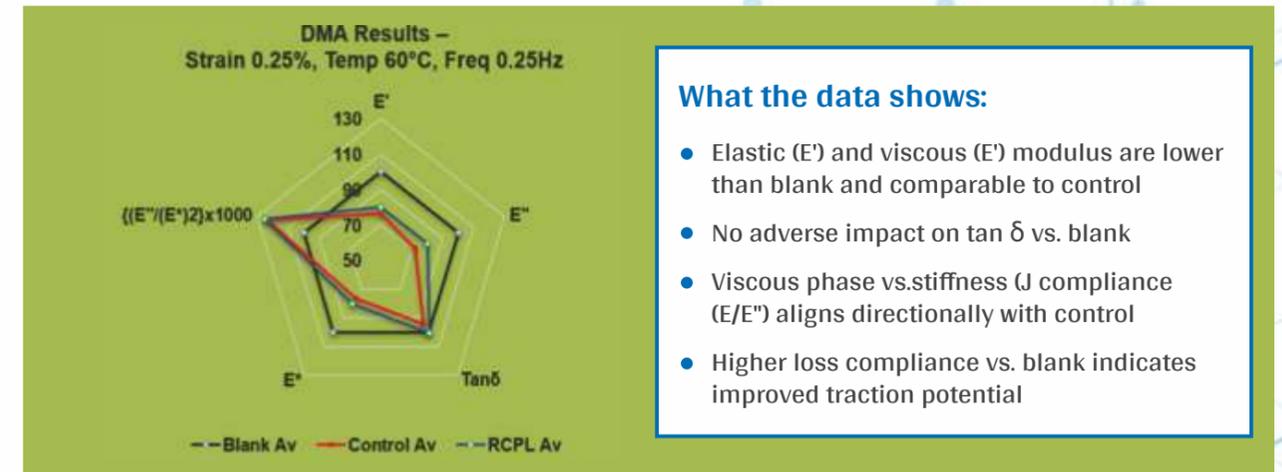
Terperes SA85 Resin benefits for tread compounds

- Low molecular weight easier to process
- Higher Tg better wet traction
- Improve compatibility of blends
 - Better filler dispersion (better RR & TW)
 - Improves compatibility of polymers
- Better dispersion - reduced shear modulus



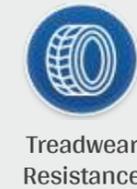
TERPERES® SA85

Optimized Poly AMS Resin for Improved Traction With Minimal Rolling Resistance Impact



TERPERES® SA85 Optimized Poly AMS Resin

- Import substitute Poly AMS resin for performance hydrocarbon resins in India
- Engineered for Molecular Weight (Mw), Glass transition
- Designed to improve traction (wet grip)
- Maintain rolling resistance performance (RR)



TERPENE RESINS

Sustainable Performance Resin for High-Performance Tire Tread Compounds

Poly Terpene Resin

- Designed to enhance traction in high-performance (HP) tires
- Almost 100% sustainable
- Improvement in wet traction
- Strong all-around performance in processing, dispersion, and DMA

Terpene Phenolic Resin

- Designed to enhance traction in high-performance (HP) tires
- Partially sustainable
- Improvement in wet traction
- Strong all-around performance in processing, dispersion, and DMA

GUM ROSIN

Many typical and conventional tire and rubber industries use Gum Rosin in very crude manner (200 Kg Drum) - cutting down the drum, breaking rosin into uneven size pieces and using it. Such process has some concerns like - contamination, irregular size of resin, limitation to automatic weighing system / automation, dispersion (due to limited mixing time and irregular sizes), and poor shop floor area and extra manpower (drum cutting / powdering, etc.). Our product is treated gum rosin and is supplied in free-flowing pastilles form.

Product	Appearance	Composition	Specific Gravity @ 25°C	Softening Point (°C)	Ash Content (%)	Typical Usage (phr)	Function & Application
Rubbond® Colophony NS	Golden Pastilles	Treated Gum Rosin	1.04	96 - 106	2.0 max	2 - 5	Sustainable tackifier, enhances green tack.

HOMOGENIZERS

Homogenizers is used to mix two different polarity rubbers, high reclaim containing compound and high inert filler containing compound.

Product	Appearance	Composition	Specific Gravity @ 25°C	Softening Point (°C)	Ash Content (%)	Typical Usage (phr)	Function & Application
Rubbond® 40	Black Pastille	Aromatic Hydrocarbon Resin	1.04	96 - 106	2.0 max	2 - 5	It improves mould flow and extrusion properties. Reduces nerve and shrinkages, improves homogeneity of elastomers and fillers. Reduces mixing cycle time.
Technic® NSH	Light Yellow Pastille	Mixture of Hydrocarbon Resin	1.01	100 - 110	0.5 max	2 - 5	Non staining homogeniser, improves mould flow & extrusion, reduced nerve & shrinkage, improved homogeneity between elastomers & fillers. Enhances Green Tack.

ADHESIVE RESIN

Resole type alkyl-phenol resin for chloroprene adhesive application.

Product	Appearance	Composition	Specific Gravity @ 25°C	Softening Point (°C)	Methylol Content (%)	Typical Usage (phr)	Function & Application
Rubbond® PB110	Pale yellow flakes	AlkylPhenol Formaldehyde Resin	1.10	110 - 120	10 - 14	-	Resole Resin, used in adhesion for shoe, leather, automobile industries. It is also used in manufacturing neoprene and other elastomer based adhesives.

POLYMER BOUND CHEMICALS

TWC is happy to introduce our polymer bound range of products. With incremental environmental concerns and challenges on usage of powder materials, polymer bound chemicals is gaining importance. It also helps in better dispersion in the rubber compounds.

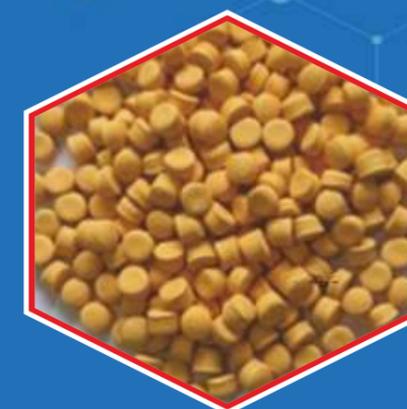
There are multiple advantages in using polymer bound chemicals, like

- No fly loss during weightment and mixing in rubber mills, there-by keeping environment clean
- Better dispersion of products in rubber matrix
- Ease of auto-weighment in smart factories

We have started manufacturing the below

Product	Appearance	Composition	Specific Gravity, g/cm ³	Active Content	Ash Content, %	Typical Usage (phr)	Function and Application
Technic® Pb080	Dark Yellow to Orange Granules	Polymer bound yellow lead oxide	3.13 - 3.33	78.5 - 81.5	-	2.3 - 2.6	Bonding agent for both zinc and brass coated steel cord adhesion compound.
Technic® R80	Off White Granules	Polymer bound Resorcinol	1.17 - 1.25	77 - 81	-	2.3 - 2.6	Active member of dry bonding system, it acts as a methylene acceptor.
Technic® HMT80	Off White to Grey Granules	Polymer bound HMT	1.20 - 1.25	79 - 81	1.8 - 3.0	1.3 - 1.6	Active member of dry bonding system, it is methylene donor.
Technic® YP80	Yellow Granules	Polymer bound Yellow powder	1.64	77 - 81	-	-	Curing Agent for natural & synthetic rubber
Technic® IS65	Yellow Granules	Polymer bound Yellow powder	1.40	77 - 81	-	-	Curing Agent for natural & synthetic rubber
Technic® Zn080	White Granules	Polymer bound Zinc Oxide	2.90 - 3.00	77 - 81	-	3 - 8	Polymer bound zinc oxide for improved dispersion in compounds.

We can surely add our product portfolio based on customer's need for the same.



PROCESS AIDS

SMART

SMARTER – SMOOTHER – Rubber Additives for future

TWC RubberAid® range of Zinc Free & Zinc based Process Aids for all rubber applications. The use of process aid is very classical, it supports in imparting physical and chemicals improvement of rubber compounds.

The TWC Edge

- High Dosage of Silica usage
- Processing efficiency – mixing stages reduction
- Improves extrusion
- Energy reduction
- Easy to handle
- Dust free pastilles

Process Aid advantages in NR/SBR compounds

- Impart increased cure rates – providing scorch safety
- Exhibit better reversion resistance
- Lower viscosity – good processability and extrusion
- Improved compound hardness and modulus
- Lower Tan D – better fuel economy
- Lower heat build-up – better durability

PROCESS ADDITIVES - DISPERSANT FOR FILLER, ZINC FREE

Product	Appearance	Composition	Specific Gravity, g/cm ³	Dropping Point, °C	Ash Content (%)	Acid Number	Dosage (phr)	Function and Application
RubberAid® 254M	Beige / Yellowish / Creamish Pastilles	Blend of Substituted Fatty Acid Amides	1.01 ± 0.05	70 - 90	0.1 (Max)	10 (Max)	2 - 3	A zinc free processing additive developed for highly filled silica compounds. Reduces the tendency of re-agglomeration of filler particles, particularly silica. Maintains low viscosity during compound storage with good extrusion and does not influence on cured compound dynamic properties.
RubberAid® ZF16	Beige to Brown Pastilles / Flakes	Mixture of Fatty Acid Soaps, predominantly Calcium	1.0 ± 0.05	96 - 108	3 - 7	22 (Max)	1 - 5	Improves flow properties of polymeric compounds by reducing viscosity and promoting slippage at the rubber-to-metal interface, which could lead to higher extrusion rates, improved dimensional stability and a constant level of die swell. Eliminates sticking to rotors in internal mixers or open mills and calendar rolls.
RubberAid® ZF42	Light Beige / Yellow / Brown / Pastilles	Blends of Fatty Acid Derivatives	1.0 ± 0.05	83 - 97	1 Max	-	1 - 5	It provide very good lubricating effects and helps to improve flow and mould release. Can be incorporated both in the internal mixer or on the mill and is recommended to add this additive with the fillers.
RubberAid® ZF212	Light Tan / Off White / Pastilles	Blend of Fatty Acid Derivatives in an Inert Carrier	1.1 ± 0.05	55 - 65	18 - 22	-	2 - 5	Could prevent sticking of rubbers and compounds to rotors and rolls and its addition can reduce the risk of scorching in highly loaded rubber compounds. Improves the flow properties of the rubber compound, which could result in foiling the molds faster and under lower pressure.
RubberAid® ZF222	Light Tan / Off White / Yellow / Pastilles	Fatty Acid Esters and Condensation Products	1.0 ± 0.05	55 - 70	-	20 (Max)	2 - 4	Exhibits good plasticizing properties and highly effective in polar NBR rubber compounds. Improves the flow and release properties. Prevents sticking of elastomers and rubber compounds to rotors and rolls and can reduce the risk of scorching in highly loaded compounds.
RubberAid® ZF280	Crumbly powder	Processing Additive based on Organosilicones	1.10 ± 0.05	-	-	-	0.5 - 2	A new concept in processing additive based on organosilicones. It is highly compatible with rubber compounds. This enables utilisation of the highly efficient lubrication effect of silicones without extrusion or bloom. It improves flow properties and release behavior of rubber and mould release of vulcanizates. It also reduces mould fouling. Because of its low volatility at high temperature it is particularly suitable for FKM compounds.

PROCESS ADDITIVES - ACTIVATORS, ZINC BASED

Product	Appearance	Composition	Specific Gravity, g/cm ³	Dropping Point, °C	Ash Content (%)	Zinc Content (%)	Dosage (phr)	Function and Application
RubberAid® ZA73	Grey White - Creamish Pastilles / Flakes	Mixture of Zn soaps of Aliphatic and Aromatic Carboxylic Acids	1.24 ± 0.05	103 - 117	18 - 22	16 - 18	2 - 5	An effective activator for the sulfur vulcanization of diene rubbers, especially NR and improves modulus. An effective physical peptizer for the mastication of NR, also improves processability in mixing, extrusion, molding and anti-reversion properties.
RubberAid® ZA74	White - Creamish Pastilles / Flakes	Mixture of Zn soaps of Aliphatic and Aromatic Carboxylic Acids	1.1 ± 0.02	95 - 105	16 - 18	12 - 14	2 - 4	An effective physical peptizer for NR compounds. Can offer cure activation for increased reversion stability, processability and compound flow.
RubberAid® ZEH-S	White to Yellow Powder	Zinc 2-Ethylhexanoate dispersed on Silica	1.46 ± 0.05	-	46 - 50	15 - 17	1 - 3	It is a rubber soluble zinc soap and could be used as an activator for NR. It offers heat stability (reversion resistance) in NR compounds containing normal levels of sulfur, particularly with thiazole type accelerators.
RubberAid® ZEH	Highly Viscous Yellowish Liquid	Zinc 2-Ethylhexanoate	1.16 ± 0.05	-	25 - 29	22 - 24	1 - 3	It is a rubber soluble zinc soap and could be used as an activator for NR. It offers heat stability (reversion resistance) in NR compounds containing normal levels of sulfur, particularly with thiazole type accelerators.

PROCESS ADDITIVES - DISPERSANT FOR FILLER, ZINC BASED

Product	Appearance	Composition	Specific Gravity, g/cm ³	Dropping Point, °C	Ash Content (%)	Zinc Content (%)	Typical Usage (phr)	Function and Application
RubberAid® PA44	Beige to Creamish Pastilles / Flakes	Mixture of Zinc and Alkali Soaps	1.1 ± 0.05	95 - 105	12 - 14	9 max	2 - 3	Excellent flow promoter for rubber compounds with high level of white fillers, namely, silica, chalk, clay, etc. It improves dispersion of fillers and has beneficial influence on batch-to-batch uniformity. It decreases the tendency of re-agglomeration of silica. It is suitable for better extrusion and also, could be suitable for compression, transfer and injection molding applications. Suitable for radial tires, rubber belts and cables.
RubberAid® PA46F	Beige - Light Brown - Off White Pastilles	Blend of Fatty acid Derivatives	1.03 ± 0.05	78 - 92	-	4 - 6	1 - 5	Designed for high performance silica-loaded rubber compounds. Beneficial for use in high performance tires containing NR, BR, SBR, SSBR rubbers. Improves processing and extrusion of silica loaded rubber compounds.
RubberAid® PA49	Beige to Off White Pastilles	Blend of Fatty acid Derivatives	1.07 ± 0.05	105 - 120	5 - 15	-	2 - 4	
RubberAid® PA50	Beige to Light Brown Pastilles / Flakes	Zn Soaps of Unsaturated Fatty Acids	1.1 ± 0.05	97 - 109	14.5 (Max)	14.5 (Max)	3 - 5	It is rubber stable and does not bloom from the vulcanizates due to wide solubility range. Helps in the mastication, mixing and proper dispersion of fillers in NR mixed with PBR, SBR and NBR rubbers and rubber compounds. It is also good for EPM/EPDM polymers.
RubberAid® PA50P	Beige to Brown Pastilles / Flakes	Zn Soaps of Unsaturated Fatty Acids	1.05 ± 0.05	95 - 105	11 - 14	10 - 11	1 - 5	
RubberAid® PA60	Beige Pastilles / Flakes	Mixture of Zinc Soaps of Higher Molecular Weight Fatty Acids	1.15 ± 0.05	84 - 96	18 - 22	8.5 (Max)	1 - 5	The double bonds present in it could stabilize free radical formation, which in turn could improve reversion resistance and tear strength of rubber compounds. Can be used to lower power consumption during mixing cycle, dumping temp, Mooney viscosity and improve filler dispersions.
RubberAid® PA70	Beige - Light Brown Pastilles	Blend of Zinc Soaps of Unsaturated Fatty Acids and Esters	1.1 ± 0.05	98 - 108	15.5 - 18.5	-	3 - 5	Fast incorporation and improves dispersion of the silica without sacrifice in wet skid resistance could be achieved. Could facilitate flow property and release behaviour of rubber and mould release of product.
RubberAid® PA276	Beige to Brown Pastilles / Flakes	Blends of Fatty Acid Soaps mainly Aliphatic in Nature	1.1 ± 0.05	95 - 105	15 - 17	12 - 14	2 - 4	Developed specifically for use in compounds containing high loadings of fillers, particularly with high surface area silicas. Reduces compound viscosity and enhances flow property during extrusion, which could lead to improved processability.

Majority of our process aids are based on Palm Fatty Acid and other Vegetable Oil Fatty Acid, so a sustainable quotient is attached to the same.

PROCESS AIDS - COMPATIBILITY WITH POLYMERS

Products	NR	SBR	BR	CR	NBR	XNBR	IIR	EPDM	CSM	CPE	ECO	HNBR	ACM	EM	EVM	FPM
RubberAid® ZA73	●	●	●	-	●	-	-	-	-	-	-	-	-	-	-	-
RubberAid® ZA74	●	●	●	-	●	-	-	-	-	-	-	-	-	-	-	-
RubberAid® ZEH-S	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-
RubberAid® ZEH	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-
RubberAid® PA44	●	●	●	-	●	●	●	●	-	-	-	●	●	●	●	-
RubberAid® PA46F	●	●	●	-	●	●	-	-	-	-	-	●	●	●	●	-
RubberAid® PA49	●	●	●	-	●	●	●	●	-	-	-	●	●	●	●	-
RubberAid® PA50	●	●	●	-	●	●	●	●	-	-	-	●	●	●	●	-
RubberAid® PA50P	●	●	●	-	●	●	●	●	-	-	-	●	●	●	●	-
RubberAid® PA60	●	●	●	-	●	●	-	-	-	-	-	-	-	-	-	-
RubberAid® PA70	●	●	●	-	●	●	-	-	-	-	-	-	-	-	-	-
RubberAid® PA276	●	●	●	-	●	-	-	-	-	-	-	-	-	-	-	-
RubberAid® ZF254M	●	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-
RubberAid® ZF16	●	●	●	●	●	●	-	-	●	●	●	●	●	●	●	●
RubberAid® ZF16(P)	●	●	●	●	●	●	-	-	●	●	●	●	●	●	●	●
RubberAid® ZF42	●	●	●	●	●	●	-	-	●	●	●	●	●	-	-	-
RubberAid® ZF212	●	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-
RubberAid® ZF222	●	●	●	●	●	●	-	-	●	●	●	●	●	●	●	●
RubberAid® ZF280	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●

● Excellent ● Good

Performance Highlight for Some of our specially developed Process Aids

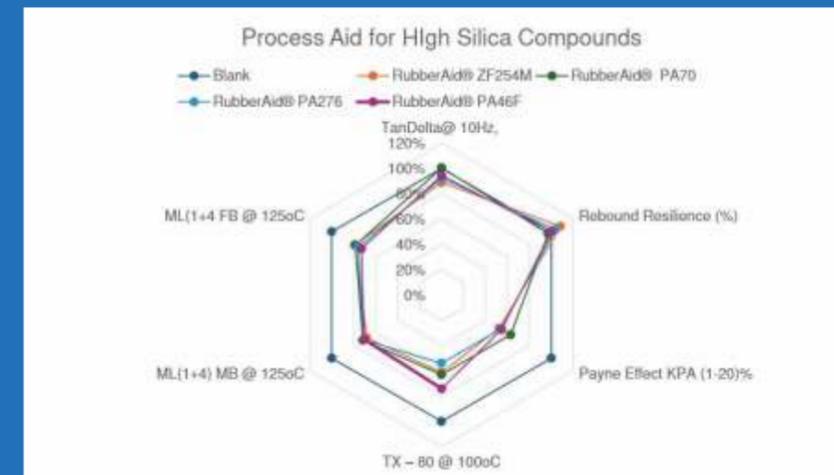
A. PROCESS AIDS FOR HIGH DOSAGE OF SILICA COMPOUNDS



We have designed multiple process aids based from fatty acid from vegetable oil, specially designed to support smooth mixing of very high dosage of Silica (~100 phr) in all major rubber compounds. The use of vegetable oil and fatty acid makes it a sustainable product to use.

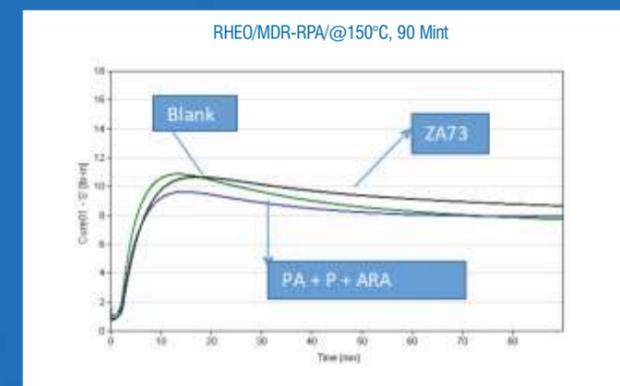
Amide and ester of vegetable oil functional group interact with the silica filler and breaks the cluster structure of silica. The hydrocarbon part goes to the polymer part and act as a lubricant to incorporate filler in the polymer matrix. Since amide can trap silica by nitrogen as well as its tautomeric hydroxyl group, therefore fatty acid amide always a best choice for silica processing aid.

Performance of our variety process aids for high silica rubber compounds – SSBR based compound with 100 phr Silica with 5 phr Process Aid



B. MULTIFUNCTIONAL PROCESS AIDS

RUBBERAID ZA73 is a specially designed multi-functional Process Aid. It is a mixture of zinc soap of Aliphatic & Aromatic Carboxylic Acids to effectively work as Peptizer, Process Aid & Anti-Reversion agent. A cost-effective solution and replacement to multiple products using a single product.



Ingredients	BLANK	PA + P + ARA	ZA73
Process Aid (PA)	0.00	1.50	0.00
Peptizer (P)	0.00	0.20	0.00
ZA73	0.00	0.00	2.00
Anti Reversion Agent (ARA)	0.00	0.50	0.00
Mooney Viscosity (MU) – ML(1+4) @ 100°C	61.81	51.11	48.58
Reversion (lb-in) @ 150°C / 90 mins	3.12	1.72	1.90
(%) Shrinkage	1.33	0.66	0.66

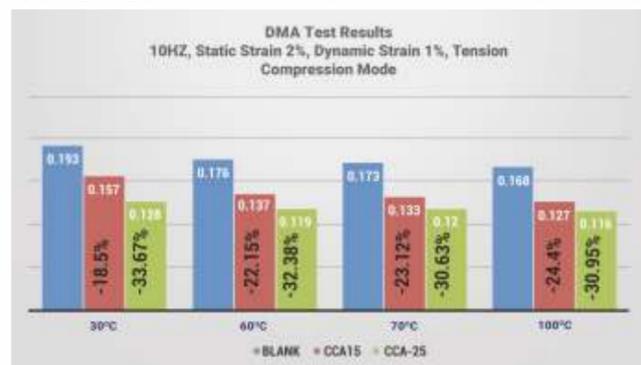
CARBON BLACK COUPLING AGENT – HYDRAZIDE BASED COMPOUND

Resource / energy conservation efforts in automobile industry has led industry driving forward for fuel efficient tires. Tire rating on fuel efficiency is also implemented in major parts of the world. In order to achieve energy savings from tires, the reduction of rolling resistance, which is one of the resistances against driving force, is very important.

We take privilege in introducing our hydrazide based compound which supports and participates in interaction of carbon black (CB) and natural rubber (NR). Better interaction of NR & CB leads to improvement of Tan D @ 70°C, which is a direct measurement of rolling resistance performance in tires.

Product	Appearance	Composition	Active Content (%)	Melting Point, °C	Loss on Drying (%)	Ash Content %	Typical Usage (phr)	Function & Application
Technic® CCA01	Off White Powder	Hydrazone Compound	96 min	145 - 155	1.0 max	0.5 max	0.5 - 1	CCA Hydrazide compounds has been successfully designed to meet need of carbon black and natural rubber NR interaction for tire and non-tire industries. It offers a balanced combination of improvement in polymer-filler and filler - filler interaction, with reduction of Tan D at 60-70°C, resulting in improvement of Rolling Resistance.
Technic® CCA08	Beige to light brown powder	Hydrazide Compound	95 min	203 - 208	0.75 max	1 max	0.5 - 1	
Technic® CCA15	White to Pale powder	Hydrazide Compound	95 min	223 - 231	1 max	1 max	0.5 - 1	
Technic® CCA25	White to Pale powder	Hydrazide Compound dispersed on fatty acid derivative	23 - 27	-	2 max	14 - 16	4	To mitigate the risk of increase in viscosity of rubber compound because of better interaction of carbon black to polymer, the product is formulated with adding specially designed process aid for control of viscosity with minimal compromise in Tan D.
Technic® CCA28	White to Pale powder	Hydrazide Compound dispersed on fatty acid derivative	23 - 27	-	2 max	14 - 16	4	

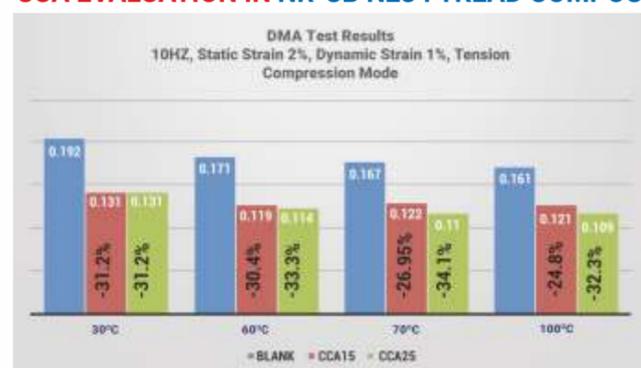
CCA EVALUATION IN NR-CB N134 TREAD COMPOUND



Suggestive Formulation (base formulation in phr)

Natural Rubber	100
Carbon Black N134	45
Stearic Acid	2
Zinc Oxide	5
CB Coupling Agent	1/4
Accelerator	1.00
Sulphur	2.00

CCA EVALUATION IN NR-CB N234 TREAD COMPOUND



Suggestive Formulation (base formulation in phr)

Natural Rubber	100
Carbon Black N234	45
Stearic Acid	2
Zinc Oxide	5
CB Coupling Agent	1/4
Accelerator	1.00
Sulphur	2.00

- Reduction in Tan D (Improvement in Rebound Resilience) reflecting a performance of product exhibiting lower heat build-up / better fuel economy.
- Possible applications for tyres based on NR based Tread (cap / base) compounds.

CONCLUSION

- Technic®CCAs have helped in having good interaction between carbon black & NR (coupling) which could favorably influence Rolling Resistance / Heat Build-up (Resilience) for NR & CB compounds.
- Helpful for Low RR (Tread Cap) and for Low Heat Build Up (tread cap & tread base) carbon black based tire treads and even for conveyor belt cover compound for energy efficient belts.
- Excellent for delocalization of N1 Series & N2 Series Carbon Black in NR Matrix.

NOTES