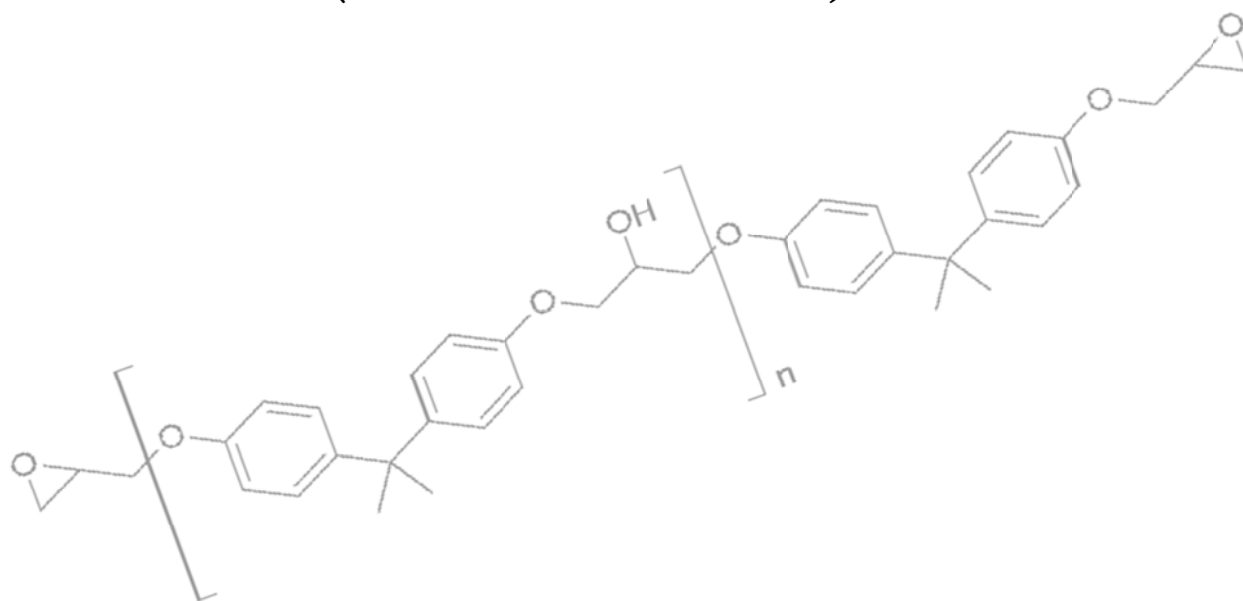


# *Epoxy & Allied Products*

*(Product Selector Guide)*



## **THE HINDUSTHAN GROUP**

Contributing to the development of the Indian economy for more than 6 decades, we are a multi – discipline, multi – location, well diversified industrial conglomerate involved in core sector areas like Engineering, Electricals, Chemicals, Agro Based products, Renewable Energy & Education. We are powered by an able and dynamic team of committed professionals and a vast pool of skilled manpower. Equipped with state-of-art technology, we have industrial units and offices spread across various locations of the country & our team strength has grown to over 15,000 individuals. Continuously seeking initiatives for diversification, expansion and optimization translating into new products and innovations; we have catapulted ourselves into the frontiers of technology in each area of our activities through strategic alliances and mutual partnerships with global leaders and thrusting a major focus on research development and human resources. With such a long and strong history behind us, we have a remarkable foothold in government sectors and overseas market.

## **HINDUSTHAN SPECIALITY CHEMICALS LIMITED (HSCL)**

HSCL is a part of The Hindusthan Group having interests in manufacturing and marketing of epoxy and allied products. HSCL recently commenced their R&D cum formulation facility in 'Taloja July' 2015 onwards for manufacturing of epoxy and other allied products and is setting up state of the art manufacturing facility in Bharuch, Gujarat. It intends to provide complete solutions to customers with technologically advanced materials through innovation, its principles of sustainability and through it's innovative technology. HSCL's products will find application in civil construction, coatings, electrical & electronics, composites, laminations, adhesives, tooling and other niche end-use segments. We are committed to serve quality products to our clients. Our quality lab is equipped with world class instruments which can help us to achieve excellence in both incoming raw materials and outgoing value added products. Our quality team is composed of highly qualified chemists who know the right basics and are competent to test the products for their right application. We value our team and train them for the new technologies that can help achieving results quickly and with great reliability. HSCL believes in innovation and value added research. We have invested in valuable assets both trained technologists and highly sophisticated instruments.



## ⌘ Epoxy Resins & Reactive Diluents

System	Description	EEW	Viscosity	Applications	Key Advantages
JRE-187	BPA based epoxy resin	184-190	11000-14000	- General purpose liquid epoxy resin	- Excellent adhesion, mechanical, thermal and chemical properties
JRE-186	BPA based epoxy resin	180-190	8000-11000	- General purpose liquid epoxy resin	- Slightly low viscosity compared to JRE-187
HSC 4110	C-12-C-14 alcohol mono glycidyl ether of epoxy	290-310	Max 10	- Epoxy flooring top coats	- Better non yellowing properties - Enhancement in working time
HSC 4150	O-cresol mono glycidyl ether of epoxy	165-190	Max 20	- Adhesives - Castings - Composites	- Reducing the viscosity - Retention of mechanical properties
HSC JRE-100	Cycloaliphatic modified epoxy resin	160-175	500-1000	- Outdoor electrical castings	- Excellent weather resistance - Low viscosity~1000cPs - Low HyCl
HSC EPN 2202	Novolak Epoxy	176-181	30000-4000 @ 52°C	- Thermal stable adhesive - High chemical resistance coatings	- High crosslink polymer - High chemical resistance - High thermal resistance

## ⌘ Epoxy Curing Agents

System	Description	AHEW	Viscosity	Applications	Key Advantages
HSC 8210	Aliphatic Amine	23	Max 20	- General purpose quick curing hardener	- Fast cure - Superior mechanical, thermal and chemical properties
HSC 8221	Cycloaliphatic Amine	46	Max 20	- Composites - Civil and coatings	- Superior weathering properties - Superior mechanical and excellent thermal properties
HSC 9220	Cycloaliphatic Amine Adduct	68	80-250	- Civil top coat	- Excellent wetting - Low viscosity assists high filler loading compared to conventional available
HSC 9221	Cycloaliphatic Amine Adduct	109	350-400	- Civil top coat - Potable water coating	- Excellent wetting - High gloss - Superior adhesion to substrate

## ⌘ Epoxy Adhesives and Moulding compounds

System	Description	Mix Ratio	Pot life	Applications	Key Advantages
HSC 7100/ HSC 8210	Epoxy general purpose quick curing medium viscosity adhesive	100:10	25-35	<ul style="list-style-type: none"> <li>- Abrasive bonding</li> <li>- Flap wheels bonding</li> <li>- Metal to metal/non-metal bonding</li> <li>- Electronic component bonding</li> </ul>	<ul style="list-style-type: none"> <li>- Good adhesive strength</li> <li>- Good mechanical properties</li> <li>- Quick curing adhesive</li> </ul>
HSC 7100/ HSC 8230	Epoxy general purpose moderate curing adhesive	100:50	60-90	<ul style="list-style-type: none"> <li>- Abrasive bonding</li> <li>- Flap wheels bonding</li> <li>- Metal to metal/non-metal bonding</li> </ul>	<ul style="list-style-type: none"> <li>- Superior adhesive strength</li> <li>- Good mechanical properties</li> <li>- Slow curing adhesive</li> </ul>
HSC 7100/ HSC 8100	Epoxy general purpose moderate curing non-thixotropic adhesive	100:80	45-60	<ul style="list-style-type: none"> <li>- Metal to metal/non-metal bonding</li> <li>- Glass bonding</li> <li>- Bangle Adhesive</li> </ul>	<ul style="list-style-type: none"> <li>- Superior Clarity</li> <li>- Moderate curing adhesive</li> </ul>
HSC 7110/ HSC 8100	Epoxy general purpose slow curing thixotropic adhesive of very high strength	100:80	70-90	<ul style="list-style-type: none"> <li>- Marble joint applications</li> <li>- Metal to metal/non-metal bonding</li> <li>- Bangle adhesive</li> <li>- Furniture industry</li> <li>- Routine maintenance</li> </ul>	<ul style="list-style-type: none"> <li>- Versatile adhesive</li> <li>- High shear strength</li> <li>- Very low shrinkage</li> <li>- Good chemical resistance</li> <li>- Moderate curing adhesive</li> </ul>
HSC 7160/ HSC 8210	Modified low viscosity quick curing adhesive	100:10	60-80	<ul style="list-style-type: none"> <li>- General purpose bonding</li> <li>- Automotive filter bonding</li> <li>- Brush bonding</li> </ul>	<ul style="list-style-type: none"> <li>- Good adhesive strength</li> <li>- Good mechanical properties</li> <li>- Moderate curing</li> </ul>
HSC 7760/ HSC 8210	Modified low viscosity quick curing moulding compound	100:10	80-100	<ul style="list-style-type: none"> <li>- Casting of moulds and tools</li> </ul>	<ul style="list-style-type: none"> <li>- Superior filler wetting</li> <li>- Good mechanical strength</li> <li>- Good thermal &amp; chemical resistance</li> </ul>
HSC 7523/ HSC 9510	Pre-filled epoxy system for quick setting putty applications	100:25	10-15	<ul style="list-style-type: none"> <li>- Crack filling/ final finishing of various epoxy application sites</li> <li>- Crack filling of electrical and electronic components</li> </ul>	<ul style="list-style-type: none"> <li>- Neutral color</li> <li>- Fast setting</li> <li>- Can be applied on vertical cladding</li> </ul>
HSC SB-150K	Adhesive for battery case applications	100:40	30 min	<ul style="list-style-type: none"> <li>- ABS to plastic bonding</li> <li>- Adhesives for electronic manufacturing</li> </ul>	<ul style="list-style-type: none"> <li>- Excellent adhesive strength for ABS, Plastic and FRP</li> <li>- BPA+ Vinyl resin structured adhesive</li> </ul>

HSC SM-100B	Molding compound for battery terminal	100:40	30 min	- Molding resin for plastics viz. PVC, ABS, PC, Rubber with excellent adhesion	- Excellent acid and alkali resistance - Temperature resistance of -30°C to 94°C
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## ⌘ Epoxies for Civil & Construction

System	Description	Mix Ratio	Mix Viscosity	Applications	Key Advantages
HSC 7450/ HSC 8231	Modified epoxy resin of low viscosity and EEW ~190 with low very low viscosity polyamide hardener	100:50	500-600	-Flooring primers -Injection grouting of old civil structures	-Working life of 100g mix is around 2 hours -Low exotherm -Superior mechanical properties
HSC 7450/ HSC 8230	Modified epoxy resin of low viscosity and EEW ~190 with medium viscosity polyamide hardener	100:50	1500-2500	-Flooring primers -Screed/ mortar applications -Foundation grouting of heavy machine	-Working life of 100g mix is around 1 hour -Superior bond strength -Good surface wetting -Superior mechanical properties -Good chemical resistance
HSC 7451/ HSC 8231	Modified epoxy resin of low viscosity and EEW ~210 with low very low viscosity polyamide hardener	100:50	700-800	-Flooring primers with improved toughness	-Working life of 100g mix is around 2 hours -Similar properties as HSC7450/HSC8231 system with increased toughness
HSC 7452/ HSC 8230	Modified epoxy resin of very low viscosity and EEW~200 with medium viscosity polyamide hardener	100:50	1500-2500	-Flooring primers -Screed and mortar applications -Foundation grouting of heavy machine and equipment	-Working life of 100g mix is around 1 hour -Similar properties as HSC7450/HSC8230 system with slow curing and increased toughness
HSC 7453/ HSC 8233	Low viscosity epoxy resin with same degree of chemical resistance as basic epoxy resin with coal tar modified hardener	100:100	2000-5000	-Coal tar modified system for chemical and water protection of concrete structures, ETP tanks, sewage treatment plants etc.	- Working life of 100g mix is around 1 hours - Superior corrosion resistance - Superior chemical resistance
HSC 7400/ HSC 8230	Unmodified epoxy resin of medium viscosity and EEW~185 with medium viscosity polyamide hardener	100:50	10000-15000	- Foundation grouting of heavy machine and equipment - Primer coating for concrete and metal structures	- Working life of 100g mix is around 1 hour - Good substrate wetting - Good chemical resistance

HSC 7454/ HSC 8232	Economic version of HSC 7450 with low viscosity polyamide hardener	100:50	500-600	- Flooring primers - Injection grouting of old civil structures	- Quick curing and less toughness compared to HSC 7450/ HSC 8231
HSC 7454/ HSC 8230	Economic version of HSC 7450 with medium viscosity polyamide hardener	100:50	1500-2500	-Flooring primers -Screed/ mortar applications	- Quick curing and less toughness compared to HSC 7450/ HSC 8230

## ⌘ Epoxies for Composites and Laminates

System	Description	Mix Ratio	Mix Viscosity	Applications	Key Advantages
HSC 7600/ HSC 8210	Quick curing medium viscosity epoxy system for hand lay-up application	100:10	1500-2500	- Industrial & Structural composites - General purpose laminates	- Excellent fiber wetting - Negligible shrinkage - Superior mechanical properties
HSC 7660/ HSC 8210	Slow reactive low viscosity epoxy system for hand lay-up application	100:10	800-1000	- Industrial & Structural composites - General purpose laminates	- Better fibre wetting compared to HSC7600/HSC 8210 - Good mechanical properties
HSC 7660/ HSC 8231	Slow reactive low viscosity good toughness epoxy system for hand lay-up application	100:50	1000-1500	- Lamination of sports goods - FRP gratings - Elevating structures for solar panels	- Long pot life - Good mechanical properties - Improved toughness
HSC 7600/ HSC 8570/ HSC 5510	Epoxy system for pultrusion with Tg~ 100°C	100:100:1	3000-4000	- Filament winding - Pultrusion of structure & industrial composites like electrical laminates	- Elevated temperature cure - Superior mechanical properties
HSC 7200/ HSC 8575/ HSC 5510	Epoxy system for pultrusion with Tg~ 120°C	100:85:1	1000-1500	- Filament winding - Pultrusion of structure & industrial composites like electrical laminates	- Elevated temperature cure - Superior mechanical properties - High Tg - Low initial mix viscosity - High working time - Good electrical properties
HSC 7251/ HSC 8573	Good toughness low viscosity epoxy system for pultrusion	100:90	500-1000	- FRP profiles and pipes for various electrical and chemical applications	- Elevated temperature cure - Tg ~ 110°C - Superior mechanical properties
HSC 7251/ HSC 8221	RT cure long pot life system for filament winding/ hand lay-up	100:20	500-1000	- FRP profiles using filament winding / hand lay-up technique	- Room temperature cure - Working time of 120 min - Superior mechanical properties - Tg achievement up-to 100°C with varied curing
HSC 7250/ HSC 8220	RT cure long pot life system for filament winding/ hand lay-up	100:25	200-600	- FRP profiles using filament winding / hand lay-up technique	- Room temperature cure - Working time of 300 min - Superior mechanical properties

					- Tg achievement up-to 80°C with varied curing
HSC 7600/ HSC 8760	Epoxy resin with solid aromatic amine hardener for good chemical resistance	100:27	800-1000	- General purpose laminates by pre-pegs and pultrusion for industrial and structural composites	- Long pot life - Elevated temperature cure - High glass transition temperature - Good dielectric properties

## ⌘ Epoxies for Electrical & Electronics

System	Description	Mix Ratio	Mix Viscosity	Applications	Key Advantages
HSC 7560/ HSC 8210	Cold quick setting low viscosity epoxy system for electrical insulation parts	100:10	800-1000	- Potting and encapsulation of low voltage components like CDI, Flashers, ignition & charging coils, igniters, rectifiers & capacitors	- RT cure with high electrical strength around 20KV/mm - Low viscosity assist in high filler loading - Superior mechanical and thermal properties
HSC 7250/ HSC 8210	Cold slow setting very low viscosity epoxy system for electrical insulation parts	100:10	400-500	- Encapsulation and potting of low voltage electrical & electronic components	- Electrical strength of around 18KV/mm - Superior dielectric properties - Low viscosity assist in high filler loading
HSC 7550/ HSC 8570/ HSC 6510/ HSC 5510/ Filler	Hot setting epoxy system for electrical insulation parts	100:100:10:1 With 300-400 parts filler	1500-2000 @ 80°C	- Indoor insulators for medium/ high voltage like post insulators & bushings - Instrument & dry type transformers - Switch gears - Processed using both Conventional vacuum casting and Automatic pressure gelation	- Superior electrical, mechanical & thermal endurance properties - Class F
HSC HOC-301	Prefilled Epoxy for indoor casting hot curing	100:20		- Bushing - Insulator - Switchgear	- Superior electrical insulation - Excellent mechanical strength - High durability
HSC HOC-701	Prefilled cycloaliphatic epoxy for outdoor casting hot curing	100:100		- Housing - Switchgear - S-LBS, Eco-LBS - GIS Spacer	- Excellent weatherproofing (Pass UV B~1000h) - Superior electrical insulation - Excellent mechanical strength - High durability

					- Improved tracking resistance
HSC HOC-603	Prefilled epoxy for indoor casting hot curing	100:100		- High voltage transformers - Bushings - Brackets	- Excellent electrical insulation - Superior dimensional stability - Improved durability
HSC HOC-303G	Epoxy for indoor casting hot curing	100:20		- Current transformers - Potential transformers - Metering outfit	- Low viscosity - Excellent impregnation
HSC HOC-153	Outdoor heavy electric machinery molding resin hot curing	100:100		- System for outdoor heavy electric machinery product molding - SF6 gas substitutes: SF6 free high voltage switchgear - High voltage transformer, bushing, housing, bracket	- Flame retardant FV1 - Weatherproof (100h UV B) - Low heat shrinkage - Superior mechanical properties
HSC JCM-125	LED potting systems RT curing	100:25		- LED surge protectors	- Superior electrical properties - Excellent heat dissipation - Low exotherm

## ⌘ Epoxy Acrylate

Grade	RI	Functionality	Viscosity (cPs @ 25°C)	Features	Applications
HSC SEA-187	1.558	2	5000 @ 60°C	BPA Epoxy	Paint & Coatings, Semiconductor & Adhesives
HSC SEA-4125	1.533	2	2500 @ 50°C	BPA PO Epoxy	Paint & Coatings, Semiconductor & Adhesives
HSC SUO-2001	1.573	2	2000	BPF Epoxy	Display, Semiconductor & Adhesives

## ⌘ Urethane Acrylate

Grade	RI	Functionality	Viscosity (cPs @ 25°C)	Tg (°C)	Features	Applications
HSC SU	1.491	3	30000	7	Aliphatic urethane Good	Display, Paint & Coatings,

O-300					adhesion to PC film	Semiconductor & Adhesives
HSC SUO-7301	1.478	2	7000	19	Aliphatic urethane	Display, Paint & Coatings, Semiconductor & Adhesives
HSC SUO-M2000	1.468	2	35000	-53	Aliphatic urethane	Display, Paint & Coatings, Semiconductor & Adhesives
HSC SUO-7620	1.492	6	35000		Aliphatic urethane (Flexibility)	Display, Paint & Coatings, Semiconductor & Adhesives
HSC SUO-7630	1.495	6	2000 @ 60°C		Aliphatic urethane (Alcohol-soluble)	Display, Paint & Coatings, Semiconductor & Adhesives

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