

Bulk Transport Conveyor Rubber EP Belt

Technical Specifications

Conforming IS 1891



Resistentes a la abrasión Cinturones del transportador

أحزمة الخامس المحمية الحرارة

Résistant à l'abrasion de qualité courroies transporteuses









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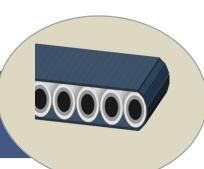






Specification of Rubber Conveyor Belts

Classified under HS Code 4010



HIC <u>Universal Rubber Conveyor Belts ensures</u> safe transportation of lifting & unloading of materials, in a way, the <u>nylon NN or polyester EP textile</u> carcass <u>fabric plies are bonded with</u> synthetic rubber compound, <u>belting rubber covers</u> are made of anti-abrasive, high tensile strength quality M-24 or N grade suitable for carrying lumps or fine dust at ambient temperature, <u>rubber grade Heat</u> Resistant, SHR, Superior HR for <u>hot materials</u> transportation up to 200 degree C, <u>belt rubber grade Hygienic</u> for sugar, tea, vegetables, food processing, <u>belts cover quality</u> Fire Resistant for use in transporting lignite coal, sulphur, nuclear power stations and supersedes IS:1891, BS: 490, DIN: 22102, ISO 4195 quality standards.

Fire resistant conveyor belts manufactured by HIC Universal as per **United States** Mine Safety Health Administration **MSHA - FR**, MSHA - FOR, Japan - JIS 6324, Australia - AS 4606, UK - BS 8407, Germany DIN 22103, **IS 3181**, ISO 340, ISO 1554.

About HIC

HIC International Co Inc, formed in 1988 manufacturing industrial rubber and steel products ISO 9001 certified producer of Conveyor belt roller idler, Power Transmission belts coupling pulley, Hydraulic hose valve, Safety rubber sheet mat quality exporters of HIC Universal brand to industrial traders distributors of USA, Australia, UAE, Singapore, China, South Africa, UK, Germany, Taiwan having manufacturing factories in Delhi and Ghaziabad UP of India.

Total Quality Management principles are followed and True Performance is thus assured.

Fire Retardant Antistatic Belting produced by HIC Universal as per Canadian department of energy Mines and resources CAN / CSA M 422 - M87 Type - C, FRAS - C grade conveyor-belt for below surface use as well as other mining operations.













Why HIC Universal Conveyor Rubber Belts?



Wear Resistant

to Heat, Fire, Abrasion and Oil

Superb Bonding Synthetic Rubber

Reinforced with EP or Nylon Fabric Ply

No Joint Failure

of Vulcanized Endless Belts

Highest Physical Properties

for Successful Material Handling

Longer Life Transport

Bulk Lumps and Foodstuffs Conveying Solution

Materials handling and goods movement gets safe using conveyor belt made in India by HIC Universal.

HIC Universal rubber conveyor belts are Original Choice by Dulk Conveyor System manufacturers in India, China, USA, UK, Germany, Mexico, Russia, Turkey, Peru, Canada, Taiwan, Malaysia, Sweden, Tunisia, South Africa, Djibouti, Senegal, Japan, Thailand, Sri Lanka and other Asian countries.













RANGE of Belts

Materials Transportation HIC Conveyor







Chevron Belting C15 Pattern



Chevron Pattern YT Cleat Belt



Rough Top Conveyor Belt



Bucket Elevator Belt



- Nylon conveyor belts M N grade rubber 3- 8 ply, 3 x 1.5 mm thick covers min.
 & above up to 2400 mm W
- ❖ Polyester textile EP Fabric Ply M- N grade belts up to 20mm thick
- Hygienic Food grade Nylon 3, 4 ply conveyor belting up to 1200 mm W
- Heat Resistant conveyor belts with 4 x 2 mm thick rubber covers min. & above of HR 120 C
- Fire Resistant conveyor belts with 3 x 3 mm thick rubber covers min. & above
- * Rough Top belts 3 ply with 3 mm ruff min. thick on top up to 1000 mm W
- * Endless size conveyor belts up to 90 metres max. single length
- ❖ Elevator rubber belts in 2 equal roll lengths
- PVC Food grade conveyor belts up to 2000 mm W
- * Rough Grip, Ribbed PVC conveyor belts
- ❖ Oil Resistant PVC conveyor belts up to 3000 mm W
- Conveyor Belt Fasteners Solid Plate Hawk type

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Sizes of Rubber Belt Manufactured

HIC Material Movement Conveyor

Belt width sizes 200 mm (= 8 inch) to 2400 mm (= 96 inch)

REGULAR standard conveyor belts width sizes in different thickness produced (mm): 500, 600, 650, 800, 1000, 1200, 1400, 1600, 1800 and 2000.

Conveying <u>Carrying Capacity</u> of 800 mm width conveyor-rubber-belt is approximately 140 tons per hour at belt speed of 45 meter / minutes.

Ply in Rubber Belts

Straight and Reverse Stepped Layers Produced by HIC

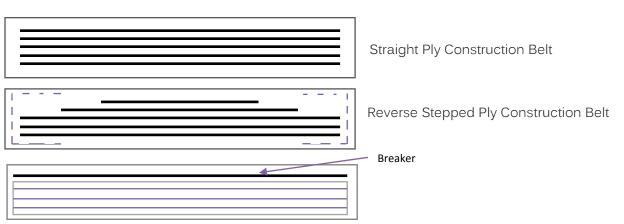
Textile ply belt Nylon or EP dipped fabric 2, 3, 4, 5, 6 to 12 as per total strength desired STRAIGHT

Nylon fabric ply rubber belts 4, 5, 6, 8 (4/2, 5/3, 6/4, 8/6) REVERSE STEP PLY for <u>submerged ash handling</u> transportation of hot ash in boiler house operating in quenching trough.



Reverse Step Ply conveyor-belt sizes produced in 630/4 (4/2) 4ply, 800/5 (5/3) 5ply, 1250/6 (6/4) 6ply.

Straight Multiply Textile Conveyor Belt







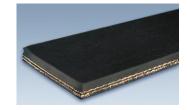








Strength Rating



EP, Nylon Fabric Reinforced Belts Produced by HIC

Nylon conveyor belts sizes multiply type NN 100 = 200/2 (2ply) to NN 315 = 2500 /7, where /2, /3, /4 represents number of fabric ply reinforcement layers in conveyor-belting.

EP multiply conveyor-belt sizes type Polyester-Nylon EP 125 x 2 ply =250/2 to EP 400 x 8 ply = Kn/m 3150 /8

Regular standard sizes of conveyor-belt fabric strength rating types available: 400/2, 315/3, 500/3, 630/3, 500/4, 630/4, 800/4, 1000/4, 800/5, 1250/5, 1600/5, 1000/6, 2500/7.

Other in-between belt strength sizes type also produced.

Adequate Load Support for conveyor-belt can be achieved by selecting minimum and above rubber belt width sizes wisely as per belt strength rating corresponding to material bulk density to be conveyed, and, not above maximum belts width sizes recommendations.

Weight of EP belt or Nylon fabric belting of 650 mm width of 3 ply-315/3 with 3mm thickness rubber-belt cover Top and 1.5 mm Bottom of 100 meters length equal 600 kg approximately.

Drum pulley conveyor minimum diameter MM 323, 408, 510, 630 be used for respective conveyor belting Ply of 3, 4, 5, 6, however, select as per belt carcass ply thickness and allowable working tension properly.

Top Rubber Cover

Smooth, Rough Top, Chevron Type HIC Conveyor Belt Produced

Smooth rubber belt surface coating TOP Thickness MINIMUM 3 mm (=1/8"), 4, 5, 6, 7, to 12 mm.

Chevron conveyor-belt Diamond pattern Thickness sizes minimum 3 mm to 8 mm.

Patterned conveyor-belt <u>YT pattern</u> with 20mm cleat height Thickness sizes minimum 3 mm to 8 mm.

Chevron conveyor-belt corrugated pattern Thickness sizes minimum 3 mm to 8 mm.

Cleated conveyor-belt Thickness sizes minimum 3 mm to 8 mm.

Power-house boiler Ash handling conveyor-belting minimum 2 mm, 3, 4, 5 mm, as top rubber-cover





















thickness sizes is usually kept lower than the bottom-rubber due to more abrasion at the back.

Bucket Elevator belting minimum 1.5, 2, 3 mm, as top rubber-cover thickness at bucket side is usually kept lower than the bottom rubber due to more abrasion at the pulley side.

Rough Top conveyor-belt anti-slip Thickness sizes minimum 3 mm to 6 mm.

Frequency Factor minutes to be calculated for selecting conveyor-belt rubber-cover thickness considering belt-Length divided by belt Speed in feet per minutes.



Bottom Rubber Cover

Smooth, Bare, Friction Coating of HIC Belting Processed

Thickness of Synthetic rubber-belt smooth coating BOTTOM MINIMUM 1.5 mm (=1/16"), 2, 2.5, 3, 4, 5 to 10 mm.

Ash handling belting minimum 3 mm, 4, 5 mm, as bottom rubber-cover thickness sizes is usually kept more than the top rubber due to more abrasion at the back than the face rubber carrying ash.



Top rubber Coating Bare Bottom
Belt

Elevator belt minimum 3, 4, 5 mm, as bottom rubber-cover thickness at pulley side thickness is usually kept more than the top rubber due to more abrasion at the pulley side than top which is bucket side.

Conveyor-belting with bare bottom and rubber frictioned surface coating at bottom also produced for tire industries and sugar bagasse conveying belt conveyor application.

Edges Manufactured

Construction of HIC EP, Nylon Multi-Ply Conveyor-Belts

CUT edges type conveyor-belts as a standard manufactured with black rubber-paint, having no implication in the performance, being nylon or EP textile ply are rot-proof.

Rubber-conveyor belting, however, also produced in edges type BONDED or MOULDED when seldom essential for particular application needs above 800 mm belting width only on extra cost.













Breaker Ply

Stacker Impact Damage Protect Conveyor Belt Produced by HIC

Polyamide breaker in rubber conveyor belts 1 or 2 number on FACE, BOTTOM and EDGES for added stacker high impact resistance manufactured used by quarry crusher equipment manufacturers, suggested where rocks, gravel, and other materials fall from good height to prevent damage.



Breaker Ply Conveyor Belt

Order Quantity Minimums

Open End Meters and Endless Length of HIC Conveyor Belts Supplied

Rubber conveyor belt length max single roll up to 300 METERS in OPEN ends, subject to Minimum order quantity of 50 meters L(=164 feet) in single specification of belt size above 750mm W, and, 150 meters length quantity minimum order below 750mm wide.



Below 750 mm conveyor-belt width, belts manufactured and supplied in 2 equal roll lengths to match ordered quantity of belt length.

<u>Length Tolerance of + 5%, -1%</u> on all ordered quantity of conveyor-belts shall be supplied deemed to have been accepted by buyers.

Packed in rolls or reels with wooden roll inside wrapped in sea worthy jute hessian or HDPE

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Hot Vulcanized Joints (Splicing)

Endless Conveyor Belt Manufactured by HIC



Length of conveyor belts in Endless hot vulcanized diamond joints manufactured with special HIC Universal technique by automatic belt vulcanizing machine for standard regular belt widths as explained above up to maximum 75 meter = 246 feet long vulcanized splice endless belting.

Cold vulcanizing for belt splicing also done for long length of conveyor belting.



Hot Vulcanized Jointing of Rubber Belt

Conveyor Belting can be rendered endless by jointing the two ends of a length of belt either by vulcanized splicing or by using mechanical fasteners. The former is recommended for better results. Hot Vulcanizing method of belts is followed by HIC for best durability.

Splicing: V-shaped (often called diamond) type of joints is strongly recommended. The extra length required to make the belt endless to requisite size shall be calculated by the following formula:

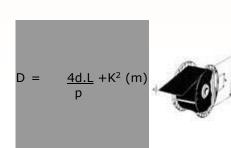
Splice Length = W + 150 (N-2) + 25mm where,

W is width of belt (in mm), N is the number of plies.

For splicing procedure, please refer our separate detailed manual and for your splicing tool requirements viz., vulcanizing machine, tools & instruments, solution & cover compound, kindly call us.

Roll Diameter

CALCULATION OF BELT ROLL DIAMETERS Where D = Roll Diameter (m) d = Belt Thickness (m) L = Belt Length (m) K = Diameter of Core (m)



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General Purpose grade

Abrasion Resistant Rubber Belt

Conveyor belt Grade global M 24, used by material handling conveyor-system manufacturers, manufactured in belt cover rubber thickness of 3 x 1.5 mm, 4 x 2 mm, 5 x 2mm, 6 x 2 mm,

Heat Resistant T1 grade

Hot-Mix Asphalt Conveyor Equipment Rubber Belt



Heat Resistant conveyor

belt SBR rubber Grade <u>BLAZE</u> = <u>HR 120</u> degree C temperature resistance T1, used by hot-mix asphalt plant equipment manufacturers, produced in cover rubber thickness of 4×2 mm, 5×2 mm, 5×3 mm and others.

SHR grade T2 Heat Resistant

7 x 3 mm, 8 x 4 mm, 10 x 5 mm and others.

Petroleum Sand Conveyor Rubber Belt



Super Heat Resistant conveyor

belt chloro butadiene rubber Grade <u>BETAPLUS</u> = <u>SHR</u> <u>150</u> degree C temperature resistance T2, used by foundry sand handling equipment manufacturers, produced in cover rubber thickness of 5×2 mm, 6×2.5 mm, 6×3 mm, 7×3 mm and others.

Superior Heat Resistant T3

Clinker Cement Conveying Machinery Rubber Belt



Superior Heat Resistant conveyor belt EPDM rubber Grade <u>SUN</u> = <u>SHR 180</u> degree C temperature resistance T3, used by clinker cement conveyor machinery manufacturers, made in cover rubber thickness of 6 x 2.5 mm, 7 x 3 mm, 8 x 4 mm and others.













UHR grade High Heat Resistant

Sinter Mining Conveyor System Rubber Belt



Ultra High Heat

Resistant conveyor belt EPDM rubber

Grade <u>ALPHAPLUS</u> = <u>UHR 200</u> degree C temperature resistance, used by sinter mining conveyor system manufacturers, produced in cover rubber thickness of 7 x 3 mm, 8 x 4 mm and others.

Fire Resistant grade

Lignite Excavator System Conveyor Belt



Fire Resistant conveyor belt and flame resistant belt open cast mines lignite coal transportation use neoprene CR rubber Grade FR, used by lignite belt-conveyor excavator system manufacturers, drum friction tested for duration of flame, anti-static property evaluated by electrical resistance test, flame retardant test by ensuring no reappearance of flames on any test pieces, FR conveyor belt cover produced in rubber thickness of 4 x 2 mm, 5 x 2 mm and others.

FRAS-C Antistatic quality

Fire Protected Mine Conveyor Rubber Belt



Antistatic conveyor-belt

and fire resistant belting underground mines safety use neoprene CR rubber Grade <u>FRAS - C</u>, used by underground mining conveyor equipment manufacturers, produced in cover rubber thickness of 5 x 2 mm, 6 x 3 mm and others.

Oil Resistant grade

Refinery Equipment Conveyor Rubber Belt



Oil Resistant conveyor belt minerals oils and vegetable oil dust conveying nitrile NBR rubber Grade OR, MOR, used by edible oil refinery equipment manufacturers and solvent extraction conveyor machinery manufacturers, produced in belt cover rubber thickness of 3 x 1.5 mm, 4 x 2 mm and others.







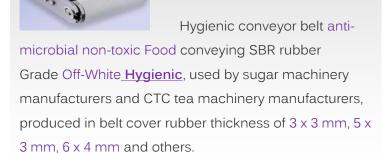






Food Grade White Hygienic

Sugar, Tea SBR Rubber Conveyor Belt



Crusher Belting

Aggregate Machinery Conveyor Rubber Belt



Crusher belt super tensile

strength and gauge resistant rubber-Grade global M 24, Y, used by crushers' system manufacturers and aggregate machinery manufacturers, produced in belt cover rubber-thickness of 4 x 2 mm, 5 x 2 mm and others.

Iron Ore Conveyor Belt

Ship Loading Systems Rubber Belts



Iron-ore transport conveyor

belt super tensile strength and gauge resistant rubber-Grade global M 24, X, used by ship loading unloading conveyors manufacturers, iron ore conveyor systems manufacturers and bulk port infrastructure consultants, produced in belt cover rubber-thickness of 5 x 2 mm, 6 x 3 mm and others.

Coal Conveyor Belt

Mine Bulk System Rubber Belts



Coal transport conveyor belt

moderate cut-resistant rubber-Grade RMA 2, Z, N, global M, used by coal conveyor systems manufacturers, produced in belt cover rubber-thickness of 3 x 1.5 mm, 4 x 2 mm, 5 x 2 mm and others.











Cold Resistant Rubber Belt

Mineral Ore, Timber, Conveying Belts



Cold resistant rubber-

conveyor belt Grade \underline{D} , cold temperature resistant to \underline{Minus} -45 degree \underline{C} , +50 \underline{C} and wear-resistance, used by mineral ore conveyor machinery manufacturers and timber panel wood processing equipment manufacturers, produced in belt cover rubber-thickness of 3 x 1.5 mm, 5 x 2mm and others.

Bucket Elevator Belt

Raw Mill, Hopper Conveyor System Belting



Belt bucket elevator Heat and

abrasion resistant rubber HIC Universal BLAZE Grade HR and M 24, used by bucket elevator vertical conveyor systems manufacturers, produced in configurations of nylon belt 4, 5, 6 ply in 630/4, 800/5, 1000/6 belt covers bucket side TOP mm 1.5, 2, 3 and pulley side BOTTOM 3, 4, 5 mm.

Shot Blasting Machine Belt

Abrasion Resistant Rubber Belts



Tumble blast anti-abrasion rubber conveyor belt used by shot blasting machine manufacturers, manufactured in configurations of nylon belt in 5 ply- type 630/5 with 6 mm thick rubber on top and 3 mm on bottom, of HIC's SAR grade super abrasion resistant rubber, total belt thickness of about MM 14, rubber belt sizes $\underline{1100 \text{ mm W}} = 43-1/2" \times \underline{3.75 \text{ meters equal } 148"}$ Endless length, 875 mm W = 34-1/2" x 3 meters equal $\underline{118"}$ Endless and $\underline{915 \text{ mm W}} = 36" \times 3.05$ $\underline{\text{meters equal } 120"}$ Endless conveyor belt with HIC unique strong hot vulcanized splices.







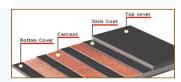






Nomenclature of Conveyor Belt

Tensile Rating and Belt Weight-Widths to Support Load: Technical Data



Conveyor Belt Designation EP or NN	Allowable Maximum Belt Tension (ABT)	Nominal Carcass Thickness	Nominal Carcass Weight	(mm) for sa	rt for a	ory load material	Min. belt Width (mm) for Adequate Troughing of Empty Belt			
* Tensile Rating / Ply	(kN/m)	(mm)	(Kg/m2)	1.0	1.6	2.5	20º idlers	30º / 35º idlers	45º idlers	
200/2	20	2.2	3.54	650	500	400	250	300	350	
250/2	25	2.6	3.90	800	650	500	300	350	400	
315/2	31	2.6	4.00	800	650	500	300	350	400	
400/2	40	3.2	4.96	1000	800	650	350	400	450	
500/2	50	3.8	5.28	1000	800	650	350	400	450	
630/2	63	4.6	6.20	1200	1000	800	400	500	600	
250/3	25	2.8	3.79	1000	800	650	350	400	450	
315/3	31	2.8	3.93	1000	800	650	350	400	450	
400/3	40	3.4	4.29	1000	800	650	350	450	500	
400/4	40	3.9	5.24	1200	1000	800	400	500	600	
500/3	50	3.4	4.44	1200	900	800	350	450	500	
500/4	55	4.7	5.72	1400	1200	100	400	500	600	
630/3	63	4.0	5.07	1200	1000	800	400	500	600	
630/4	70	4.7	5.92	1400	1200	100	400	500	600	
630/5	70	6.0	7.15	1800	1600	1400	400	650	550	

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Conveyor Belt Designation EP or NN	Allowable Maximum Belt Tension (ABT)	Nominal Carcass Thickness	Nominal Carcass Weight	(mm)			Min. belt Width (mm) for Adequate Troughing of Empty Belt			
* Tensile Rating / Ply	(kN/m)	(mm)	(Kg/m2)	1.0	1.6	2.5	20º idlers	30º / 35º idlers	45º idlers	
800/4	90	5.5	6.76	1600	1400	1000	450	600	750	
800/5	90	6.0	7.40	1800	1600	1400	500	650	750	
1000/3	100	6.8	8.34	1600	1400	1200	450	550	650	
1000/4	110	6.7	7.36	1800	1600	1400	500	650	800	
1000/5	110	7.0	8.45	1800	1800	1600	650	800	900	
1250/4	140	8.9	10.36	1800	1800	1600	650	800	900	
1250/5	140	8.5	9.20	2000	1800	1800	650	800	900	
1400/4	155	9.3	11.12	1800	1800	1600	650	800	900	
1400/5	155	11.3	12.95	2000	1800	1800	800	900	1000	
1500/5	165	11.3	12.95	2000	1800	1800	800	900	1000	
1500/6	165	10.3	11.04	2000	2000	1800	800	900	1000	
1600/4	180	10.4	12.36	2000	1800	1600	650	750	900	
1600/5	180	11.8	13.90	2000	1800	1800	800	900	1000	
1600/6	180	13.7	15.54	2400	2000	2000	1000	1200	1400	
1800/6	200	13.7	15.54	2400	2000	2000	1000	1200	1400	
2000/4	220	11.8	14.48	2000	2000	1800	800	1000	1200	
2000/5	220	13.2	15.45	2400	2000	2000	1000	1200	1400	
2000/6	220	14.3	16.68	2400	2000	2000	1000	1200	1400	

^{*} Please read disclaimer

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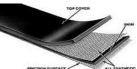






Rubber Cover Grades





	Conforming To		Applications			Belt Physical Properties				
Grade	Standards	Belt Characteristic	Industrial Materials Handling Reference	Material Temperature Range	Av. Tensile Strength Belt (Min) Kg/Cm	Av. Elongation (Min.)%	Rubber Abrasion (Max.) mm ³			
Belt Conv	eyor Mine, Belt C	coal Conveyor, Ru Conveyor	bber Belt, Limeston	e Quarry		GENERAL P	URPOSE			
M-24 ('M','A')	IS: 1891 (Part I) BS: 490(Part I)	High tensile strength and superior in abrasion, cut and gauge resistance. Recommended for transporting highly abrasive	Metallic Ore, Coke stone, Copper Ore Limestone, Broken glass, etc.	(-)45°C to + 60°C	245	450	150			
Fly Ash Conv	veyor Belt, Husk Shot Blaster Be			GENE	RAL PURP	OSE				
N-17 (N or S)	IS: 1891 (Part I)	Recommended for transporting moderately abrasive and non- abrasive materials.	Coal, Wood chips, Fine ores, Clay Unground, Cement etc.	(-)35°C to + 60°C	175	400	200			
Conveying B	elt, Hard Rock	Mining Belt	GENERAL PURPOSE							
w x				(-)45°C to	180 250	400 450	90 120			
Y Z				+ 60°C	200	400 400	150 90			
RMA 1					170	400	150			
RMA 2					140	400	250			
Synthetic Rubl	per Conveyor Be Belt	lt, Urea Handling		SPEC	IAL PURPO	OSE				
H-TEX	Mfd. to our Universal	Moderate tensile strength and excellent in abrasion	Copper ore, Fertilizers, Sand, etc.	(-)45°C	110	400	100			

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Rubber Belt Grade	Conforming To		Applications			Belt Physical	Properties				
	Standards	Belt Characteristic	Industrial Materials Handling Reference	Material Temperature	Av. Tensile Strength Belt	Av. Elongation (Min.)%	Rubber Abrasion (Max.) mm ³				
				Range	(Min) Kg/Cm						
	cer Handling Bel	t, Feeder Belting		HEAT RESISTANT							
Universal	IS: 1891		Cement, Chemicals,	+ 65°C	130	350	250				
		abrasion	Soda ash, etc.								
BLAZE	(Part I)	resistant.		to							
(HR)	T1			+ 120°C							
Universal	IS: 1891	Heat and	Cement clinker,	+ 65°C to +	130	350	250				
		abrasion	Foundry Sand,	150°C							
BETAPLUS	(Part II)	resistant.	Sintered ore, etc.								
(Super HR)	T2										
Universal	Mfd. to our	Surface of rubber	Iron pellet, Hot coke,	+ 65°C	110	350	250				
			Burnt limestone, etc.								
SUN	Universal	heat and shallow		to							
		cracks		0 -							
(Superior	Standards	occasionally.		+ 180°C							
HR)		* Also, Ultra Hea	at Resistant up to 20	00C manufactu	red with min	nimum 7 x 3	mm cover thickness				
Conveyo	r Belting		OIL RESISTANT								
OR	IS: 1891	Excellent	Materials with crude	(-)25°C	125	250	350				
		resistance to	petroleum Tar sand,								
	(Part III)	mineral,	Oil sand, etc.	to							
		vegetable and		2202							
E 10 11 E	D K OTO	animal oils.		+ 60°C							
Food Quality F		्राea Processing। Color	Machine Belt White		HYG	IENIC FOOD					
HYGIENIC	IS: 1891	Non-toxic,	Tea, Coffee,	(-)20°C	100	350	350				
		tasteless and	Pharmaceuticals,	,							
	(Part IV)	odourless.	etc.	to							
		Recommended		2202							
		for handling		+ 60°C							
In division O		foodstuffs.	Colsins Marshins			<u> </u>					
Industrial Con	veyor, Power Sta	ation Rubber Beit, Belt	Coking Machinery	FIRE RESISTANT							
FR	ISO 284	Fire resistance	Coal, Coke, Sulphur,	(-)45°C	110	400	200				
		and anti static.	etc.	to							
				+ 60°C							

(Remarks)* Testing method of abrasion as per DIN22101

#sub to (-20% tol.)

Special cover grades have also been developed depending upon service conditions, viz., Chemical Resistant & HTTR rubber grade.











^{**} Weight of rubber cover (approx.) = 0.034 kg / 25 mm width / per 1 mm thick / per meter length.

^{***} Manufactured upto **2400 mm w**idths

[#] Weight of nylon conveyor belt of 650 mm wide x 315/3 x 3/1.5 mm covers of 100 mtr. long = 600 kgs approx. @ Conveyor carrying capacity of 800 mm wide belt is approx 140 tons/hour at belt speed of 45 mtr / min.

^{*} Please read disclaimer





Pulley Diameter Recommendations

Minimum Suggested Drum Diam of Conveyor Belt

	Belt Carcass Thickness (mm) Recommended Minimum Pulley Diameter (mm)														
									<u> </u>						
	Textile Belt Type Up to 30%							Percentage of maximum allowable working tension used Over 30 up to 60% Over 60 up to 100%							
	All		All		pe of P			Type of			Type of P				
			n / EP Fabric	•	_			V -	· · · · · · · · · · · · · · · · · · ·		V 2				
From	То	From	То	Α	В	С	A	В	С	A	В	С			
2.0	3.1	2.3	2.7	160	160	125	200	160	125	250	200	160			
3.2	3.9	2.8	3.5	200	200	160	250	200	160	315	250	200			
4.0	5.0	3.6	4.4	250	250	200	315	250	200	400	315	200			
5.1	6.2	4.5	5.5	315	315	250	400	315	250	500	400	315			
6.3	7.8	5.6	7.0	400	400	315	500	400	315	630	500	400			
7.9	10.0	7.1	8.8	500	500	400	630	500	400	800	630	500			
10.1	12.5	8.9	11.1	630	630	500	800	630	500	1000	800	630			
12.6	15.6	11.2	13.8	800	800	630	1000	800	630	1250	1000	800			
15.7	17.5	13.9	15.5	1000	1000	800	1250	1000	800	1400	1250	1000			
17.6	20.0	15.6	17.7	1000	1000	800	1250	1000	800	1600	1250	1000			

A= Driving Drum pulley (Head/Tail); B= Snub pulley; C= Bend pulley













Capacity of Conveyor Belt Ton per Hour Carrying in relation to Speed

Conveyor belts capacity in tons per hour (TPH) is based on material weighing 100 lbs. per cubic foot, 20° material surcharge angle with three equal length rolls on troughing idlers.

CAPACITY (TPH) = .03 x Belt Speed (FPM) x material weight (lb. per cu. ft.) x load cross section (sq. ft.)

TPH conveying capacity with 20° Troughing Idlers

Belting Width	Belt Speed in feet per minute (FPM)												
in Inches	100	150	200	250	300	350	400	450	500	550	600	650	
16	42	63	84	105	125	147	168	-	-	-	-	-	
18	54	80	110	135	160	190	218	243	270	-	-	-	
24	100	150	200	250	300	350	400	450	500	550	600	-	
30	160	240	320	400	480	560	640	720	800	880	960	1040	
36	235	350	470	585	700	820	935	1050	1170	1290	1400	1520	
42	330	495	660	825	980	1155	1320	1485	1650	1815	1980	2140	
48	440	660	880	1100	1320	1540	1760	1980	2200	2420	2640	2860	
54	570	855	1140	1420	1710	2000	2280	2560	2850	3130	3420	3700	
60	720	1080	1440	1800	2160	2520	2880	3240	3600	3960	4320	4680	

TPH conveying capacity with 35° Troughing Idlers

Belting Width	Belt Speed in feet per minute (FPM)											
Inches	100	150	200	250	300	350	400	450	500	550	600	650
18	66	100	135	170	200	235	270	305	338	-	-	-
24	125	187	250	310	380	435	500	560	625	685	750	-
30	200	300	400	500	600	700	800	900	1000	1100	1200	1300
36	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950
42	420	635	845	1060	1270	1480	1690	1900	2120	2320	2540	2750
48	560	845	1125	1400	1690	1970	2250	2530	2810	3090	3370	3660
54	740	1110	1480	1850	2220	2600	2960	3340	3700	4080	4450	4820
60	935	1400	1870	2340	2800	3280	3740	4200	4680	5150	5610	6100













Speed Max. in relation to Lump and Width of Belt

Belt Width in Inches	Maximum S (Inches)	ize of Lumps *	Maximum Belt Speeds in feet per minute (FPM)						
	Equal Size Lumps	Mixed with 90% Fines	Light Free Flowing Material As Grain, Pulverized Coal 50 Lb./Cu. Ft.	Average Material As Sand, Gravel, Stone, Coal, Fine Ore 100 Lb./Cu. Ft.					
16	2	4	500	400	350				
18	3	5	500	500	400				
24	5	8	600	600	450				
30	6	11	700	650	500				
36	8	15	800	650	500				
42	10	18	800	650	500				
48	12	21	800	650	500				
54	14	24	800	650	500				
60	16	28	800	650	500				

Disclaimer: Information's, written and verbal are provided by HIC, relative to its products which it determines to be reliable & no liabilities of whatsoever nature in regards to its uses. The purchaser of UNIVERSAL brand industrial products should determine for itself the suitability of such products.







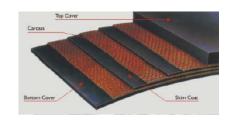






Selection of Conveyor Belt

Bulk Lumps, Fines Material Transport HIC Belts Guide *



Follow simple steps for as to How to select conveyor belt to transport material through conveying system:-

Step 1 of HIC-Universal conveyor-belt Selection:

<u>Effective Belt Tension measurement</u> - EBT is calculated by summing up Tension needed to move Empty belt + Tension needed to move Load Horizontally + Tension needed to Lift the Load on conveyor belt by calculations.

Step 2 of HIC-Universal conveyor-belt Selection:

Tensile Rating choice – Conveyor Belt Tensile Strength Rating class is selected considering corresponding allowable working tension after EBT is known, say 400/3 or 800/4 or others.

Step 3 of HIC-Universal conveyor-belt Selection:

Belt Ply Rating and Fabric Construction choice - Considering tensile or breaking strength requirements, select 2, 3 or 4 ply belt corresponding to tensile strength rating of HIC Universal manufacturing range. Selecting higher tensile belt will help in reducing stretch, thus allow in excess of 2% take-up.

Pulley size limitations must be considered checking technical data sheet of HIC-Universal conveyor belts, as More Plies mean larger diameter size of pulley, and if not adhered, belt will pre-maturely fail. Check for Head end, Tail and Snub pulley minimum diameter recommendations, if same can be accommodated or not, once belt ply rating and tensile class selection is done.

Nylon <u>NN</u> fabric reinforced textile ply conveyor belting is suitable for almost **all environmental** applications including extreme hot, while <u>EP</u> conveyor belting is best for **long haulage** beyond 1 km length due to very low stretch ability, but not for too hot materials transport.

For example, selecting either EP or Nylon belt Tensile rating class of say <u>630/3</u> implies 3 ply belt (technical values being same for both fabric types) with,

Full Thickness Tensile Strength = 630 kN/m width; Max Allowable Working Tension = 63 kN/m

Pulley Diameter Minimum for 3 ply HD belting having 3.6mm carcass thickness, over 60% of allowable working tension used, **Head** = 400 mm, **Tail** = 315 mm, **Bend** = 200 mm need to be kept.













Step 4 of HIC Universal conveyor-belt Selection:

Belt Width choosing as per Troughing Adequacy - Belt-Width within or More than minimum size be selected for adequate troughing and cross-stability of the belt as per HIC Universal technical specifications data sheet, else spillage, conveyor belting edge wear shall occur.

Step 5 of HIC Universal conveyor-belt Selection:

Loading Impact Conditions consideration - Breaker ply and higher Tensile Rating conveyor belting needs to be selected considering lump weights and the belt subjected to beating.

Step 6 of HIC Universal conveyor-belt Selection:

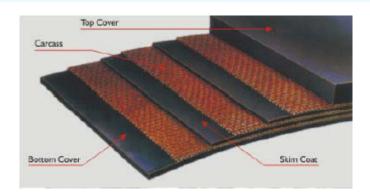
Load Support Adequacy measurement - For Adequate Load Support, select belt width MM size within the maximum suggested in relation to belts strength rating class, taking into account loading rate Tons per hour, else conveyor belt will break longitudinally.

Step 7 of HIC Universal conveyor-belt Selection:

Cover Rubber Grade quality and Thickness choice - Nature of conveying material, up to what extent abrasive, whether fine or coarse material, what lump sizes, what will be material temperature degree C, will help decide selecting rubber cover grade as to 'M' or 'HR' or 'FR' or 'OR' or 'Food', and, then Frequency Factor is calculated for deciding thickness of rubber covers, revolutions in MINUTES arrived by Belt Length (Distance in Feet between head and tail pulley) Divided by Belt Speed in Feet per Min, as per HIC-Universal technical data specifications sheet of conveyor belting.

Generally, minimum thickness of rubber cover chosen is 3 mm Top x 1.5 mm Bottom, and above.

Higher tensile rating within same number of plies and greater thickness of top rubber cover choice implies increased conveyor belting wear life due to abrasion and frequent joints failure.















Purchase Enquiry Info

EP or Nylon Conveyor Rubber Belt Min. Information to Be Sent

(Email at: belts@universaldelhi.org; universal@hic-india.com or Call +91 11 2874 5120)

HIC ships rubber conveyor belt made of EP fabric or Nylon textile Ply layers conforming IS 1891 tailor-made to buyer's order specifications to different countries including India. Please send following information in English to quote prices:



- 1. Belt Width mm
- 2. Belt Strength Rating class
- 3. **Ply**
- 4. Top rubber cover thickness mm
- 5. **Bottom** rubber mm
- 6. Rubber quality Grade
- 7. **Application** of transport material characteristics-lump size-operating temperature
- 8. Quantity Open Ends roll lengths in meter or Endless loop length



Shipment Handling and Delivery Time

Bulk quantity orders are packed in sea-worthy jute or HDPE in Rolls or Bags shipped via <u>sea</u> in less than container loads (LCL) /FCL or by air. Sea freight (BL) or Air freight (AWB) charges payable at destination.

Small orders are shipped overseas via **DHL** or **FedEx** or **Aramex** <u>courier</u>, for which your Authorization Account number be sent to be booked on "Freight To Collect" basis, together with complete acceptable physical address and phone or mobile number.

Domestic orders are dispatched to any destination in **India** by Road Transport, Gati or TCI or ARC or Jaipur Golden on **COD** basis.

Shipping Time, generally within 4-6 weeks or as stipulated in quote and accepted order.













Installation Method of Conveyor Belts

Safe Materials Handling, HIC Nonstop Conveying Tips

- <u>Pulley Size</u> of head 400mm & tail 315mm min be used up to 5.5mm inner thickness of 3/4ply belt and not less than min. diameter suggestions else ply separation & slippage problem can happen.
- Materials Build-up on pulleys & idlers should be removed periodically to avoid belt damage & misalignment.
- <u>Endlessing</u> be done in V-shaped using Hot Vulcanizing compound joined squarely;
 else belt will run to one side or off-center. Use fasteners only on 25% more strength
 belt, else life will reduce
- <u>Water Sprinkling</u> for HR grade belts (using thicker cover) is done at tail pulley for better life & never stop belt loaded with hot malt.
- <u>Unhampered Production</u> even if **Blemishes** or patches are visible at times, nothing to interfere performance. Similarly, **Wrinkles** are also **not inner ply fabric** used but liner cloth & cellophane paper impression marks of belt curing press, be left unattended.
- Edges mfd are cut for NN&EP fabric and moulded type for Cotton.
- <u>Joints</u> in fabric ply at times are used of usually higher strength.
- Belt Rating of 3ply Nylon fabric min.(type315/3) up to 800 kg/m3 material bulk density for max. 800mm belt width & min. 4ply NN (strength630/4 KN/m) upto1500kg/m3 mbd for max. 1200mmW be used though carrying capacity, speed, etc factors are considered.
- <u>Cover Grade</u> of M24 with min. top 3mm & 1.5mm bottom for abrasive materials, for hot materials >65C up to 120C temp 4x2mm min BLAZE (HR) & for malt up to 150C 6x2.5mm min. BETAPLUS(SHR) be used.
 - * Size Variation (+, -1.5% Width; +, -10% Thickness; +5%,-1% Length) as per mfg tolerances should be acceptable.













Organization Structure

Industrial supply manufacturing company having dedicated team of 63 skilled work forces includes Rubber Technologist, Chemists, Engineers and Skilled Labor's, Management Experts viz., Plant Manager, Quality Control Inspector, Lab In charge and I.T specialists. Majority of operations are automatic.

Production Capacity

	Approximate Qty. per annum
1. Conveyor Belts, Heat Resistant Rubber Belt Food Belt	72,000 meters
http://www.rubber-steel-industrial-products.com/conveyor-belts-manufacturer/index.htm	
2. <u>Belt Fasteners, Mechanical Fasteners</u>	1,00,000 numbers
3. Conveyor Idlers, Steel Conveyor Rollers	60,000 nos.
http://www.rubber-steel-industrial-products.com/conveyor-rollers-manufacturer/index.htm	
4. <u>Conveyor Pulleys, Drive Roller Steel</u>	1,200 nos.

Visakhapatnam Steel Plant (721354), NALCO (3072), Subhash Projects (EM-10,18), Heavy Engg. Corp.(6003), Bokaro Steel (72621), Salem Steel(000155), Gujarat State Road(000118), ACC (944), Army Base(512/ABW-LP/76), NTPC(H8267), etc.

* Price List & terms on specific enquiry please.













Quality Assurance Plan

HIC Conveyor Belts Testing Parameters

Quality rubber conveyor belts manufactured in ISO 9001 certified HIC factories in India with Production Supervisors conducting routine pre-manufacture checks and post-manufacture tests as to:

100% Physical checks with respect to dimensions,

100% Chemical checks w.r.t. MOC,

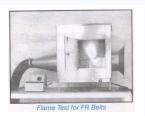
20% Random physical tests











Test Certificate & Warranty

HIC Manufacturer's Lab TC of Conveyor Belt Supplied

Quality conveyor-belt conforming IS 1891, BS 490, ISO 284, DIN 22101, IS 3181, IS 3400- HIC-manufacturers in-house modern Test Lab Certificate issued with respect to Rubber Cover tensile strength in MPa, Elongation % at Break of conveyor belt rubber cover, Full Thickness Tensile Strength in KN/m width, besides other tests such as Ply Adhesion, Ageing, Drum Friction, Flame Resistance, etc.

Warranty of one year against any manufacturing defects in HIC manufactured conveyor belting product.

<u>Third Party Inspections</u> by DNV, RITES, EIL, QSS, SGS, also arranged in HIC's rubber belt factory or by Government Approved Laboratory, Test Certificate issue fee charges directly reimbursed by buyers.

<u>Legalization</u> by Embassy or Chambers of Commerce <u>Attestation</u> of export shipping Invoice and other documents also provided towards export of Indian Origin rubber products if demanded on actual fee remitted by importers directly to HIC-Universal and or cost added up in Invoice.











Manufacturing & Testing Equipments



Exporters-Importers of industrial products having latest manufacturing machinery and advanced testing equipments.

Belt Press

Conveyor Products Production Machinery



Belting Calander

Banbury Rubber Mixer, Dispersion Kneader(s), Mixing Mill(s) 2 Roll, Calander Machine (3Roll), Jointing Machine, Rubber Bale Cutter, Hydraulic Presses (2 daylight), Hydraulic Press (single daylight), Hydraulic Finishing Press, Belt Endlessing M.C.(Vulcaniser), Sundry Machines viz. Lathes, Shaper, Generator sets, Hydraulic Jacks, etc.

Rubber Products Quality Testing Apparatus as per ISO:



Nanufacturing Hydraulic Press

B.O.D. Incubator (seasoning chamber), Hot Air Ageing Oven, Physical Balance, Tensile Testing Machines, Abrasion Tester(as per DIN), Drum Friction Tester (as per Canadian stds), Scott Flex Tester (as per railways), Dumbbell Dies, Yarn Testing Machine, etc. Calibrated periodically. Indigenous technology with latest technical Indian knows how, however, no collaboration made so far.

Quality Control

It is in between process checks that are strongly checked & lodged in register to ensure finished rubber product meeting quality standards.

Test Certificate (TC) of our Lab, wherever, applicable, is forwarded along with the supply.













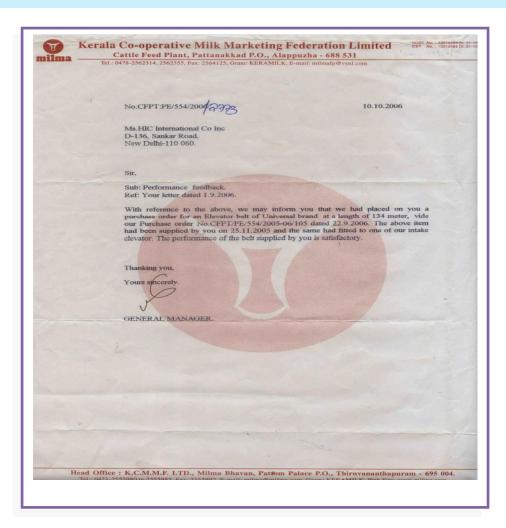
Performance Certificates



Export Excellence Award during Feb 1997



ISO Certificate





Total Quality Management Principles Followed





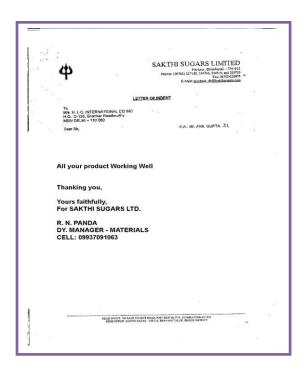




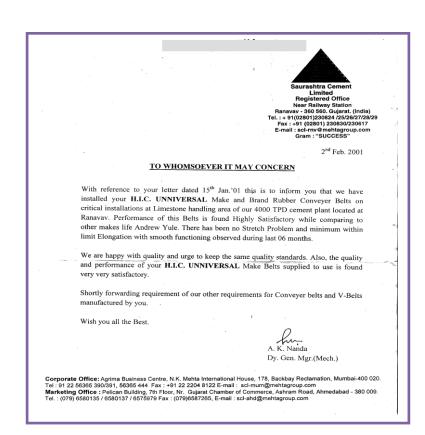


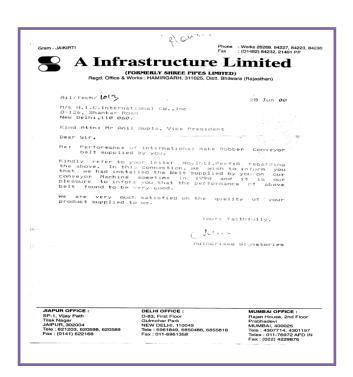


Performance Certificates









Total Quality Management Principles Followed





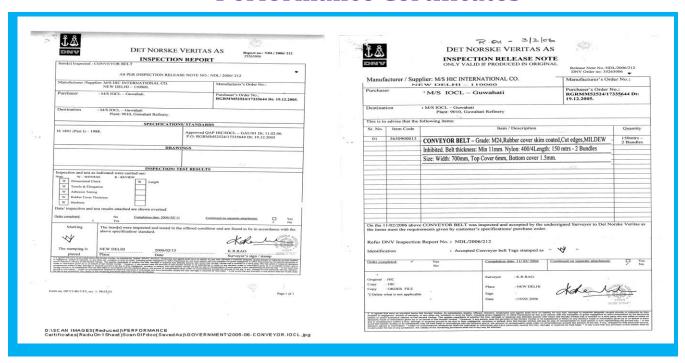


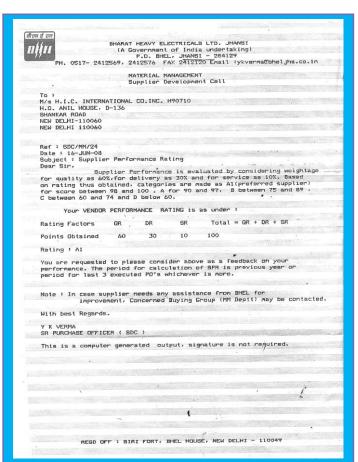






Performance Certificates





Many more certificates available as feedbacks are constantly monitored for providing highest customer's satisfaction.

Total Quality Management Principles Followed













Wear-proof. Strong. Heat Protected.

Rubber Conveyor Belts

TRUSTED BY MACHINERY OEMs OF MINING, CEMENT, PAPER, SUGAR, GRANITE SINCE 1988

www.roughtopbelting.com | www.frasconveyorbelt.com | www.textileconveyorbelt.com | www.chevronconveyorbelting.com | www.foodconveyorbelts.com | www.chevronconveyorbelting.com | www.foodconveyorbelts.com | www.processingbelt.com | www.hicconveyorbelts.com

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