OPTIMISE SA | UNEXPECTED SOLUTIONS

CONVEYOR BELTS & AUTOMATIONS

Steel Cord Conveyor Belt

Steel cord conveyor belts are widely used in high strenght, long distance and heavy load transportation of materials and they are also used in high strength and short distance transportation of materials on special occasions.

1. High tensile strength: Suitable for conveying materials in large span and long distance of single equipment.
2. Small elongation: Short take-up stroke distance.
3. Small diameter of drive pulley: The core layer has a layer of longitudinally arranged steel cord as its skeleton, and thus is flexible and fatique-resistant. Therefore, drive pulley of smaller diameter can be used to make the equipment compact.
4. High adhesion between rubber and steel cord: The steel cords are coated with zinc on their surface, and also the rubber has the property of good adhesion with steel cords.
   Therefore the rubber is tightly adhered to the steel cords that is shock resistant and hard to pee off, which make the belt long life.
5. Even tension of steel cords: Out of our advanced techniques in manufacturing, the steel cords are very equably arranged and have the same tension, so belts are well balanced in running and difficult to run away.
6. Good trough ability: As the belt body has no transverse skeleton, it is easy to from a deep grooves shape, so the belts load more materials and prevent the materials from escaping.
7. Inspection of the belt with X-rays: Users can use X-rays to inspect damages of steel cords on the conveyor to prevent accidents.

STANDARD BELT SPECIFICATIONS

DIN22131 standard

Type (st-No.)	ST400	ST500	ST630	ST800	ST1000	ST1250	ST1600	ST1800	ST2000	ST2500	ST3150	ST3500	ST4000	ST4500	ST5000	ST5400
Belt strength (N/mm)	400	500	630	800	1000	1250	1600	1800	2000	2500	3150	3500	4000	4500	5000	5400
Min strength of steel cord (KN)	5.3	5.3	10	11.5	13.2	19.2	26.4	26.4	26.4	41.2	52	57.7	66	79.2	93.5	101.0
Max dia of steel cord (mm)	2.5	2.5	3.3	3.5	4.1	4.9	5.6	5.6	5.6	7.2	8.1	8.6	8.9	9.7	10.9	11.3
Cord pitch (Step distance of two steel cord) (±1.5mm)	12	10	13.5	13.5	12	14	15	13	12	15	15	15	15	16	17	17

Type (st-No.)		ST400	ST500	ST630	ST800	ST1000	ST1250	ST1600	ST1800	ST2000	ST2500	ST3150	ST3500	ST4000	ST4500	ST5000	ST5400
Width of belt (mm)	Tolerance (mm)	Number of steel cords															
500	±5	40	48	36	36	40	34										
650	±7	53	63	47	47	52	44										
800	±8	65	78	58	58	64	55	50	58	62	50	50	50				
1000	±10	82	98	73	73	81	69	64	73	78	64	64	64	64	59	55	55
1200	±10	98	118	87	87	97	84	77	88	97	77	77	77	77	71	66	66
1400	±12	115	138	102	102	114	98	90	104	114	90	90	90	90	84	78	78
1600	±12	132	158	117	117	131	112	104	120	131	104	104	104	104	96	90	90
1800	±14	148	177	131	131	147	126	117	136	147	117	117	117	117	109	102	102
2000	±14	164	197	146	146	164	141	130	150	164	130	130	130	130	121	113	113
2200	±15			161	161	181	155	144	166	181	144	144	144	144	134	125	125
2400	±15			175	175	197	169	157	182	197	157	157	157	157	146	137	137
Thickness of belt (mm)	Tolerance (+1.0-0.5 mm)	10.5	10.5	13.5	13.5	14.0	14.0	19.5	19.5	19.5	25.0	26.0	26.5	29	29.5	33	33.5
Thickness of top rubber (mm)		4	4	6	6	6	6	8	8	8	10	10	10	12	12	12	12
Thickness of bottom rubber (mm)		4	4	4	4	4	4	6	6	6	8	8	8	8	8	10	10

GB/T 9770-2001 standard

Belt strength (st-No.)	Cord diam. (mm)	composition	Pitch of cord (mm)	Stand working tension (N/mm)	Standard cover thickness (mm)	Belt weigth (kg/m2)	Min. pulley diam (mm)	Cord strength (KN/piece)
St-630	3.0	6x7+IWS	10	90	5x5	20	800	6.93
St-800	3.5	6x7-IWS	10	110	5x5	20.6	800	8.8
St-1000	4.0	6x7-IWS	12	140	6x6	24.7	800	13.2
St-1250	4.5	6x7-IWS	12	175	6x6	25.4	800	16.5
St-1600	5.0	6x19-IWS	12	225	6x6	26	1000	21.12
St-2000	6.0	6x19-IWS	12	285	8x6	30	1000	26.4
St-2500	7.5	6x19W-IWS	15	355	8x6	32.3	1250	41.25
St-3150	8.1	6x19W-IWS	15	450	8x8	35.7	1400	51.98
St-4000	9.1	6x19W-IWS	17	570	8x8	37.8	1600	74.8
St-4500	9.7	6x19W-IWS	16	645	8x8	38.7	1800	79.2
St-5000	10.9	6x19W-IWS	17	715	8.5x8.5	41.9	1800	93.5
St-5400	11.3	6x19W-IWS	17	760	9x9	43.9	2000	101

Number of steel cords

Width (mm)	St630	St800	St1000	St1250	St1600	St2000	St2500	St3150	St4000	St4500	St5000	St5400	St6300
800	75	75	63	63	63	63	50	50					
1000	95	95	79	79	79	79	64	64	56	60	56	56	52
1200	113	113	94	94	94	94	76	76	68	72	68	68	63
1400	133	133	111	111	111	111	89	89	79	84	79	79	74
1600	151	151	126	126	126	126	101	101	91	96	91	91	85
1800		171	143	143	143	143	114	114	103	107	103	103	96
2000			159	159	159	159	128	114	114	120	114	114	107
2200						176	141	141	125	133	125	125	118

South African National Standard for steel cord reinforced conveyor belting: SANS 1366;2006

Technical data of cover rubber

Cover grade	Tensile strength ≥	Elongation ≥	Abrasion ≤	Change rate of tensile strength and elongation after aging	STADARD
	MPa	%	mm3	%	
RMA1	17	400	150	-25～+25	USA standard
RMA2	14	350	250	-25～+25	
Z	15	350	250	-25～+25	DIN 22102 standard
Y	20	400	150	-25～+25	
X	25	400	120	-25～+25	
W	18	400	90	-25～+25	