

SIDEWALL CONVEYOR BELTS

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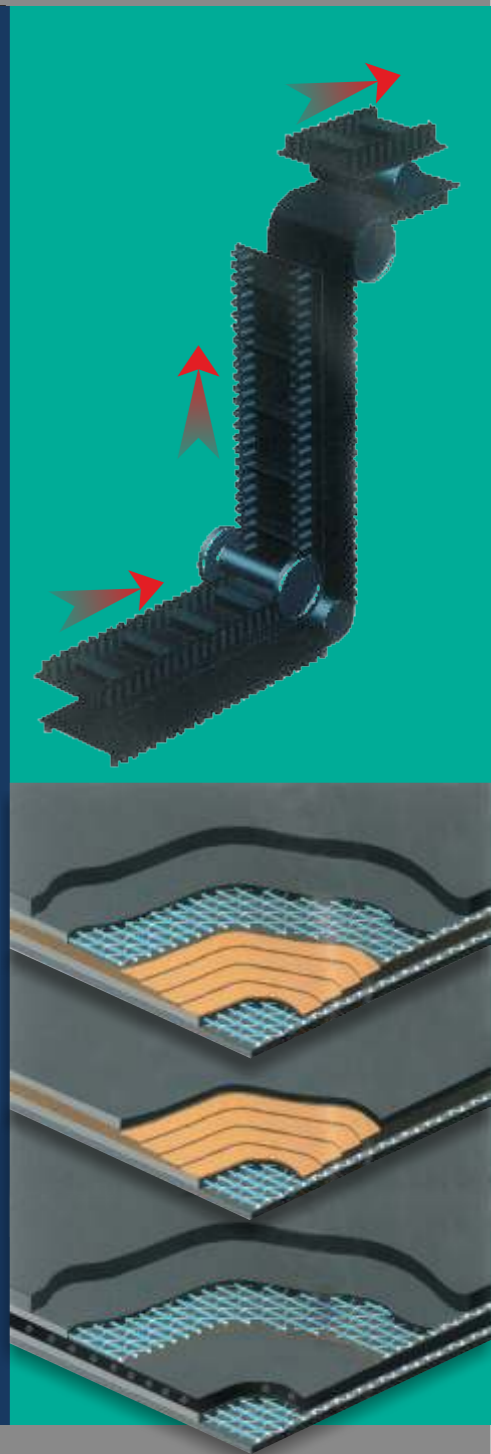
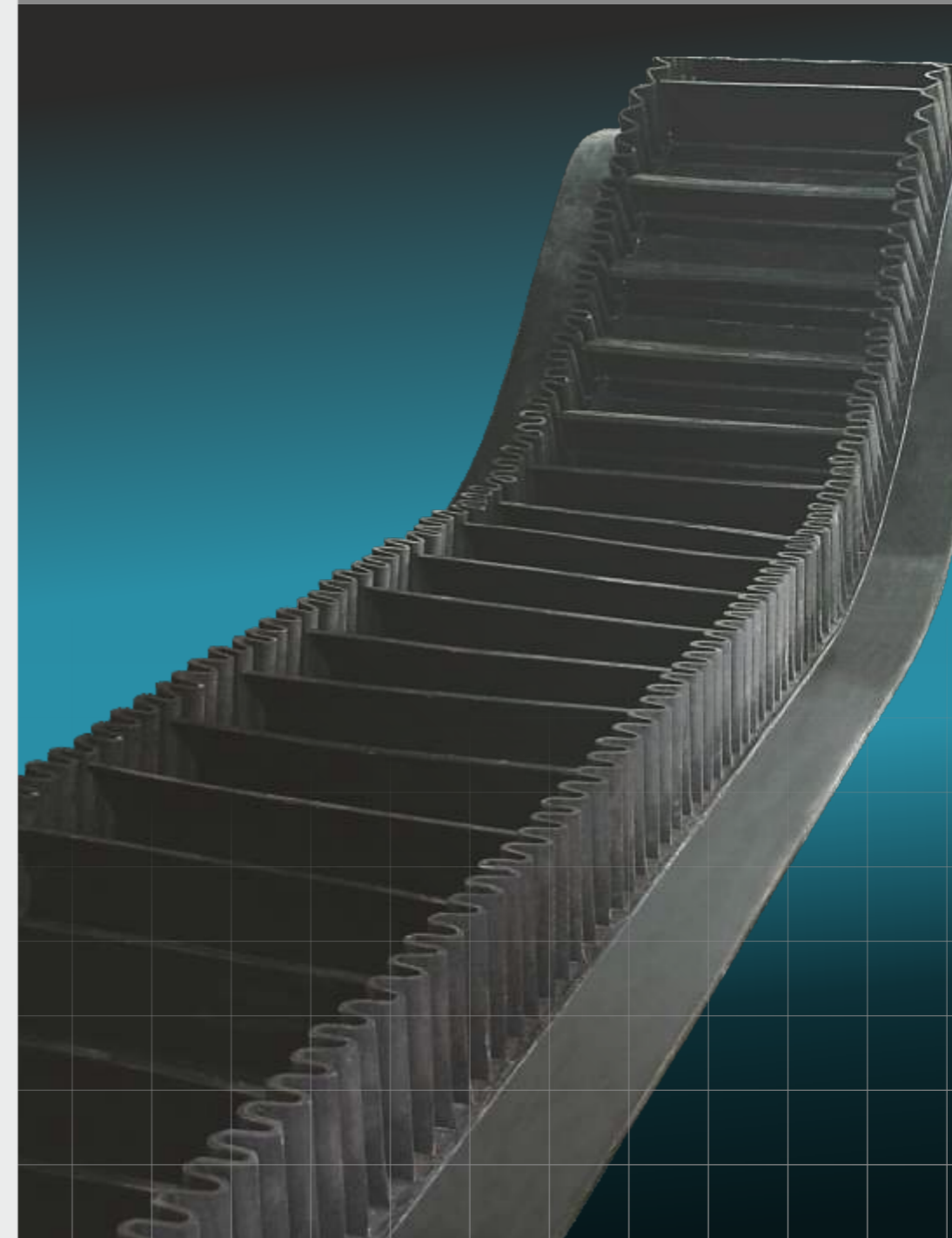
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All information and indications given in this brochure are correct to the best of our knowledge and represent a true reflection of our current technology and experience. Due to ongoing developments, however, certain details may soon become obsolete. We can accept no responsibility for errors or omissions in recommendations given in the brochure.

STEEP-ANGLE & VERTICAL CARRYING WITH SIDEWALL CONVEYOR BELTS



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SIDEWALL CONVEYOR BELTS

Forech India Limited is a leading manufacturer of Fabric and Steel Cord re-inforced Rubber Conveyor Belts that offers a complete package of products including conveyor accessories, to operate a Conveyor System efficiently and economically. Our management team has over 40 years of experience in delivering quality conveyor products, both in the domestic as well as in the export market globally.

With modern manufacturing units in Sonapat, Haryana and Cheyyar (near Kanchipuram), Tamil Nadu; Forech is also uniquely positioned to serve all regions in India with unparalleled proximity to markets.

Our manufacturing unit in Cheyyar also produces Steel Cord established with technical know-how from Dunlop Belting Products, South Africa.

When designing a conveyor system; ensuring efficiency of carrying bulk materials is critical. In addition, the nature of terrain and space constraints within a particular site can make regular conveyor systems impossible to run.

Forech's unique Sidewall Belts allow end users to carry bulk materials at high inclines and angles up to 90 degrees. This allows material to be carried where space requirements are critical; as well as increase overall belt efficiency and throughput.

APPLICATIONS

Forech 's High Angle Belts can be used in multiple industries to successfully meet space and efficiency constraints. These industries include :

- * Coal and Wood-Chip Fired Power Stations
- * Underground Mining (Coal and Ore)
- * Ship Loading and Unloading, Ship to Ship Loading
- * Sand Preparation in Foundry Plants
- * Slope Conveying in open-pit mining
- * Steep angle carrying in road construction machines



COLD VULCANISED BELTS FOR OPERATING RANGES BETWEEN 60-70°C

As High Angle belts usually operate in enclosed conditions and deliver hot material, usual temperature ratings applied to flat rubber conveyor belts cannot be applied. Increased temperature exposure over the life of the belt results in accelerated ageing and a reduction in belt elasticity which adversely effects the belt life.

The effective belt operating temperature therefore determines the operating life of the belt.

For standard belt constructions, please refer to the chart on right for average belt life at different continuous belt operating temperatures.

Temperature Range	Average Belt Life
40-50°C	2-3 years
50-60°C	1-2 years
60-70°C	0.5-1 year

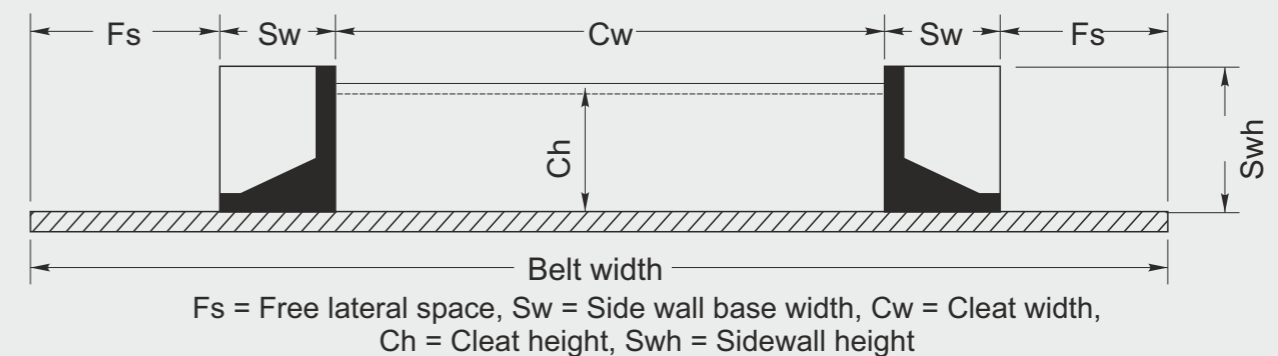
The above temperature indications are not the temperature of the material to be conveyed but the temperature of the sidewall belt itself.

HOT VULCANISED BELTS FOR OPERATING RANGES BETWEEN 80-125°C

If the operating temperature is consistently above 70°C, as in the case of heat resistant applications. Forech recommends, use of Hot Vulcanised High Angle Belts. This is because at high operating temperatures, the cold bonding adhesives used for both the cleats, sidewalls and the belt-splice start to break down. To ensure trouble free service in such applications Forech offers sidewall belts with the cleats and the sidewall in heat resistant quality which are fixed on the base belt with hot vulcanisation. The operating temperatures listed above for standard quality can be increased by 30°C if a Heat Resistant belt is used.



Typical cross section of Sidewall Belt





BELT CONSTRUCTIONS

CROSS - RIGID FABRICS

One of the key advantages of Forech's High Angle belting is the use of cross-rigid belts. These specially tailored belts can be deflected from the horizontal to a perpendicular inclined and back again without any bowing or sagging in the belt.

This is achieved through custom-made fabric constructions, a special belt composition and our in-house production procedure. This ensures that our High Angle Belts have both a long life and can withstand operating pressures at high inclines.

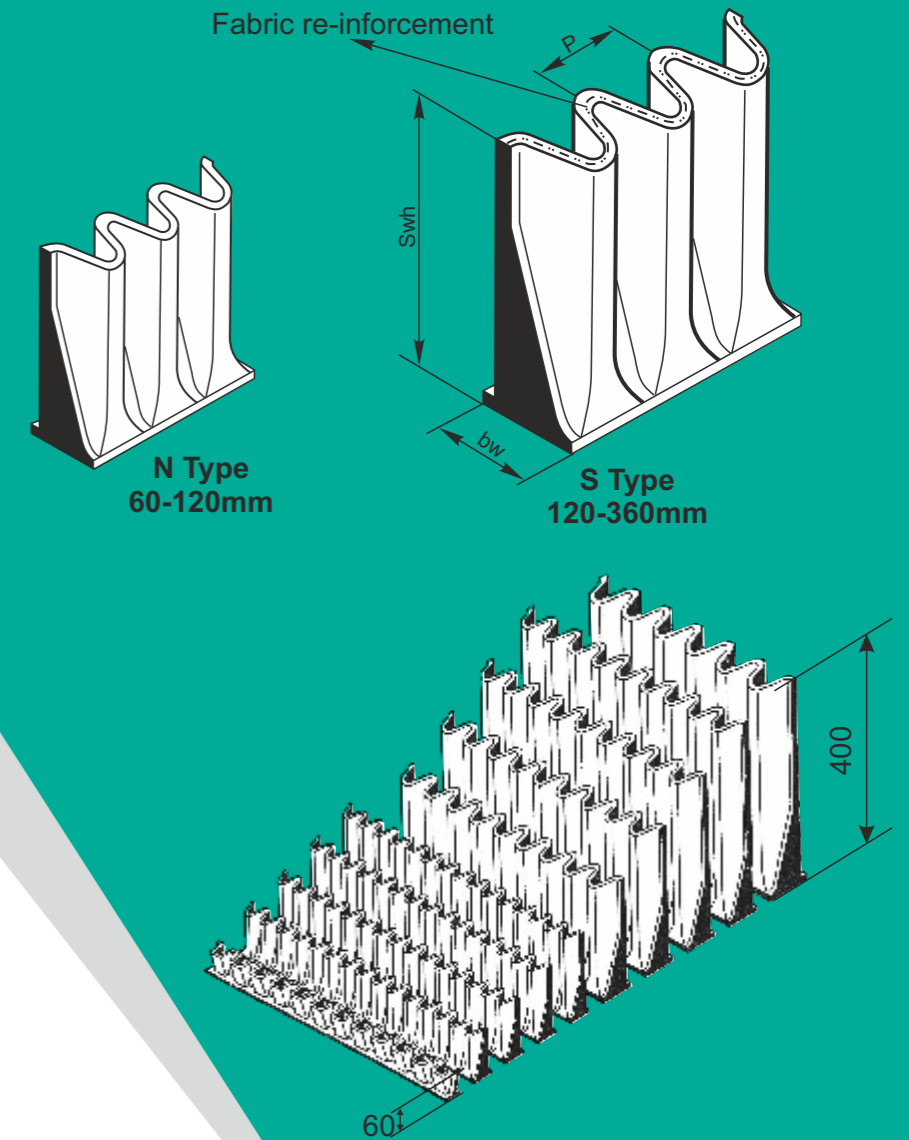
COVER QUALITIES

Available cover grades in Forech Sidewall Belts:

Index	Description
M24	Standard abrasion resistant quality
HR	Heat resistant T1 and T2 quality
FRAS	Fire resistant and anti static quality

STANDARD RANGE OF SIDEWALLS

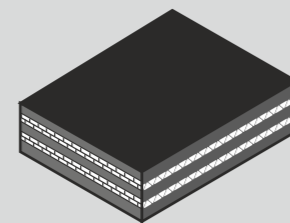
Sidewall Type	Height (Swh) mm	Base Width (bw) mm	Pitch (P) mm	Weight Standard Quality Kg/m
N Non Fabric re-inforced	60	50	40	1.60
	80	50	40	1.80
	100	50	40	2.10
	120	50	40	2.30
S Fabric re-inforced	120	50	40	2.40
	160	78	63	4.10
	200	78	63	5.20
	240	78	63	6.20
	250	75	60	6.60
	280	75	60	7.50
	300	75	60	9.00
	400	100	80	18.50
	160 GB	75	60	4.50
	200 GB	75	60	5.50
240 GB	75	60	6.40	
250 GB	75	60	6.60	
280 GB	75	60	7.50	
300 GB	75	60	9.00	



- S type sidewalls are with fabric re-inforcement
- Sidewalls that are not shown as fabric re-inforced can be manufactured with fabric re-inforcement on request.

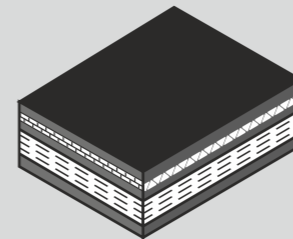
- All components of sidewall belts such as Base belts, Sidewalls and Cleats are also available separately.

Standard Base Belt Constructions



Type FXE

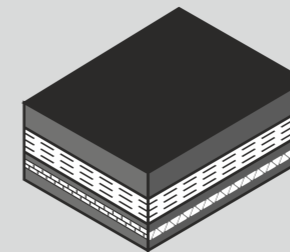
Light duty applications with non re-inforced sidewalls and cleats



Type FXE-T

The type FXE-T has one cross rigid member in the top cover of the belt with standard 3/5 ply carcass

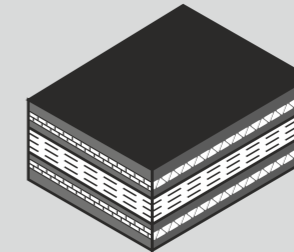
Also available with steel cross stabilized breaker



Type FXE-B

The type FXE-B has one cross rigid member in the bottom cover of the belt with standard 3/5 ply carcass

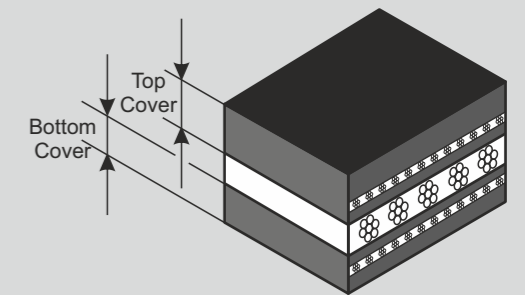
Also available with steel cross stabilized breaker



Type FXE-TB

The type FXE-TB has one cross rigid member each in the top and the bottom cover of the belt with standard 3/5 ply carcass

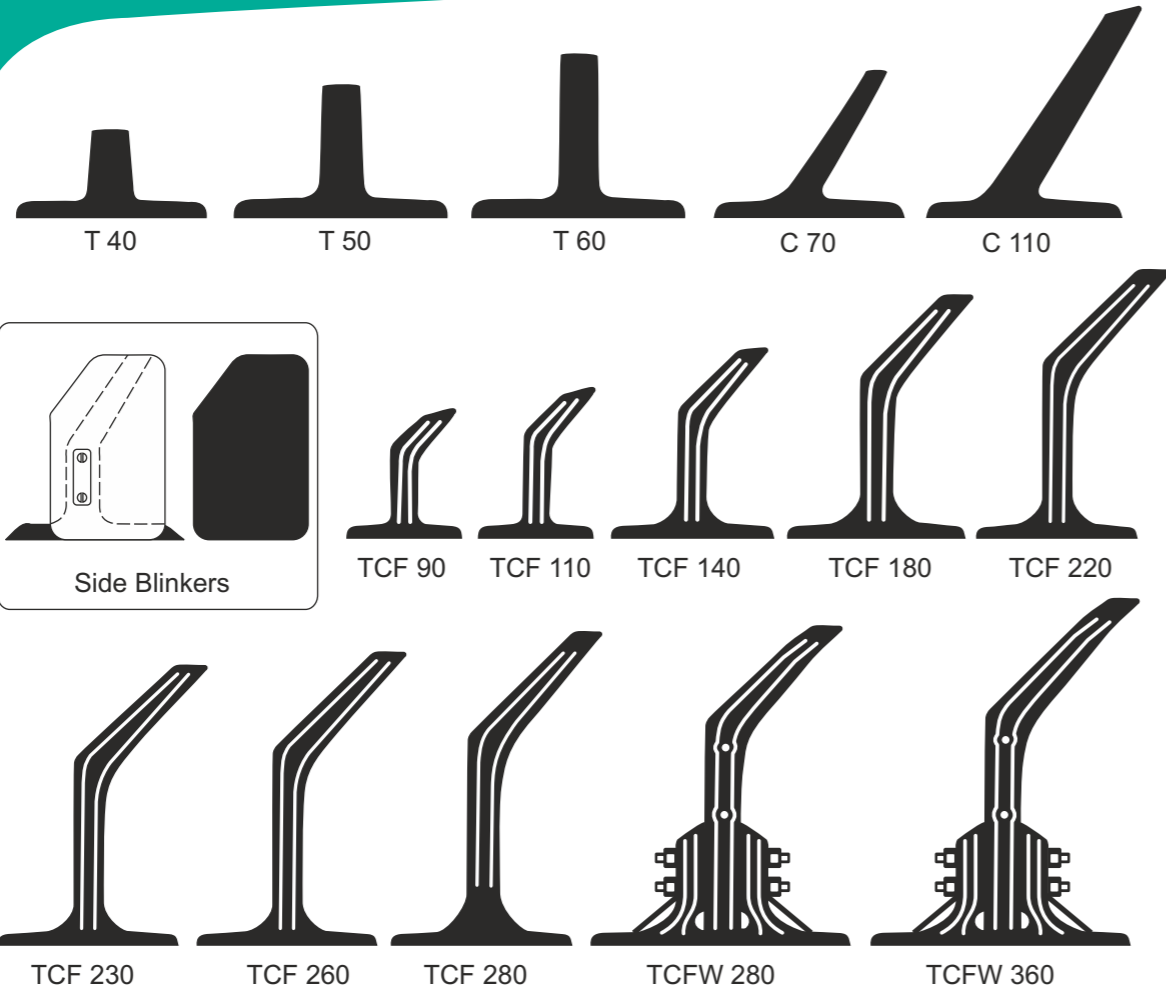
Also available with steel cross stabilized breaker



Type FST-SBTB

The type FST-SBTB has steel cord members each in the top and bottom cover of the belt with steel cord carcass

Recommended for heavy duty applications only requiring belt tensions of above 1000 Kn/m



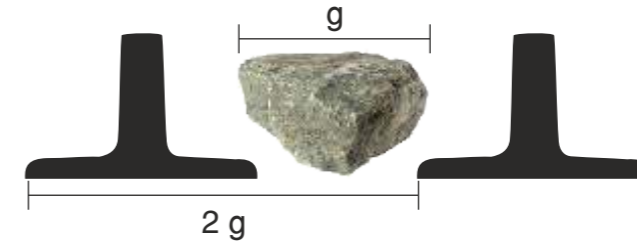
STANDARD RANGE OF CLEATS

Cleat Type	Height (Fht) mm	Base Width (bw) mm	Weight Standard Quality Kg/m
T 40	40	70	1.00
T 50	50	70	1.25
T 60	60	100	1.30
C 70	70	110	2.50
C 110	110	110	2.90
TCF 90	90	100	2.60
TCF 110	110	110	3.40
TCF 140	140	150	5.00
TCF 180	180	150	5.75
TCF 220	220	150	7.55
TCF 140 GB	140	150	5.00
TCF 180 GB	180	150	7.35
TCF 230 GB	230	150	9.75
TCF 260 GB	260	160	11.90
TCF 280 GB	280	173	13.90
TCFW 280	280	270	22.00
TCFW 360	360	270	25.50

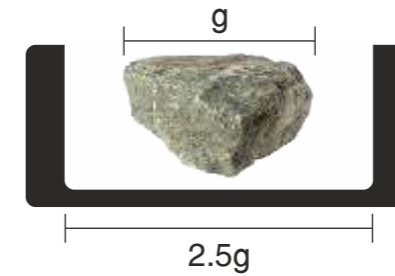
- TCF type cleats are with fabric re-inforcement
- Cleats that are not shown as fabric re-inforced can be manufactured with fabric re-inforcement on request.
- All components of sidewall belts such as Base belts, Sidewalls and Cleats are also available separately.

For appropriate transportation of material, following important measures are considered :

1. **Distance between cleats** : The minimum spacing between cleats must be atleast two times the maximum grain size.

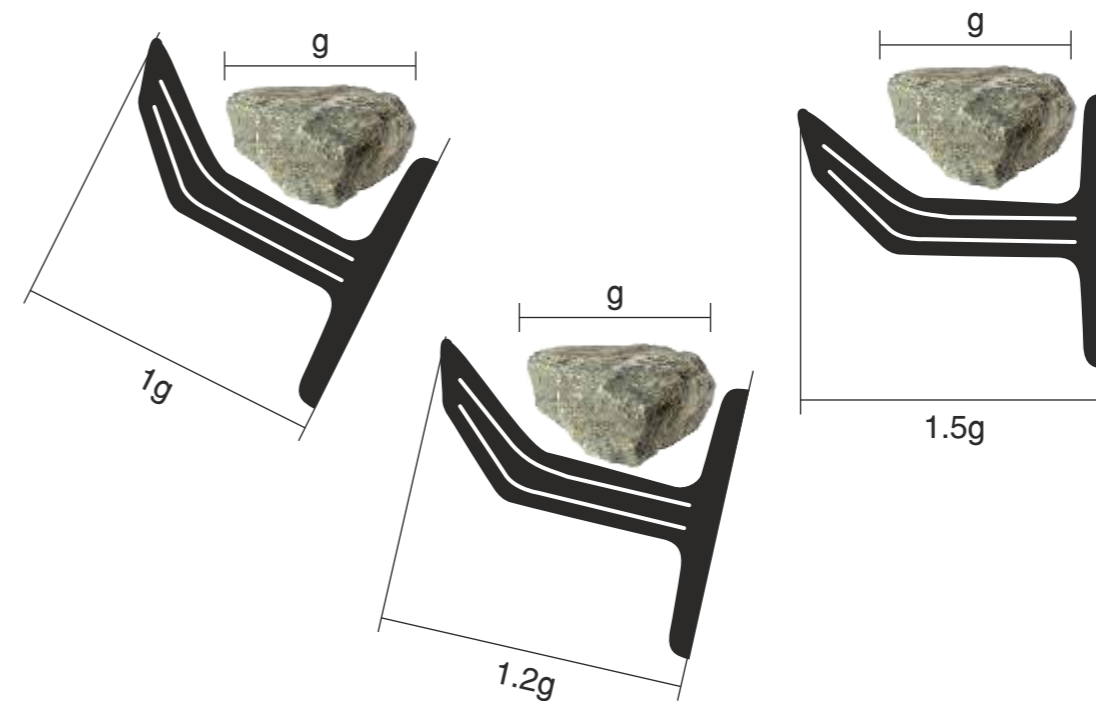


2. **Cleats width** : The width of cleats must be atleast 2.5 times the maximum grain size.



3. **Cleats height** : The height of cleat depends on angle of inclination of the belt.

Angle of Inclination	Cleat Height
0° to 60°	Min 0.75 g / Max 1 g
60° to 75°	Min 1 g / Max 1.2 g
75° to 90°	1.5 g



SIDEWALL TROUBLE SHOOTING

Listed are many of the common problems that end users have relating to sidewall belt conveyors. This list covers most but not all problems that you could face with sidewall belt conveyors. Many of the problems listed below can be avoided by a planned, preventive maintenance program as well as the use of simple precautionary measures. This will ensure optimal performance and reduced downtime for your belt.

CAUSES

CURES

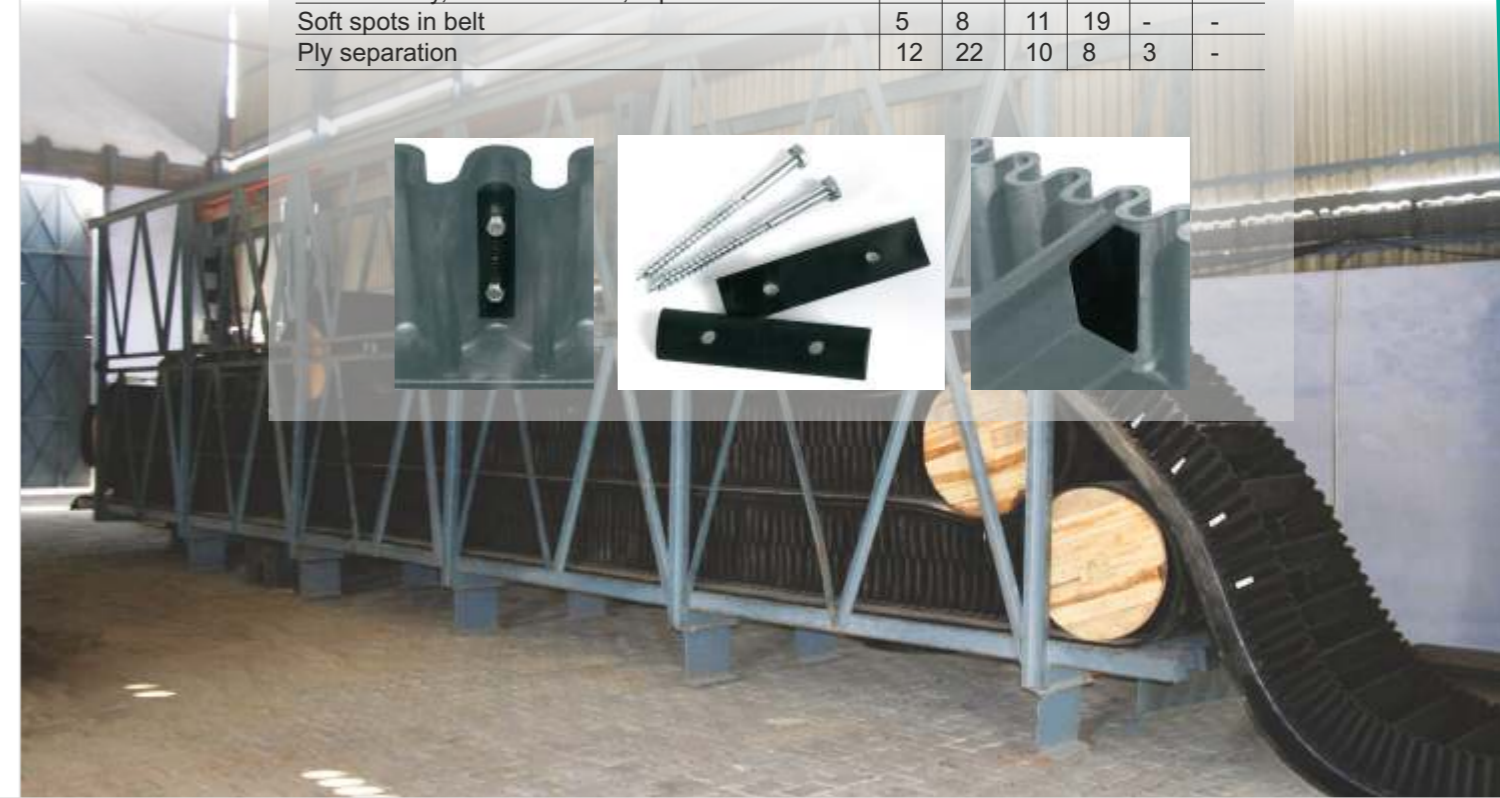
1. Belt Bowed	Avoid telescoping belt rolls while storing them, and avoid storing in damp locations. A new belt should straighten out when installed, or it must be replaced.
2. Belt improperly spliced	If improperly spliced, remove belt splice and make a new splice. Set up a regular inspection schedule.
3. Belt speed too fast	Reduce belt speed.
4. Belt strained on one side	Allow time for a new belt to settle in. If the belt does not settle in properly or is not new, remove strained section and splice in a new piece.
5. Breaker strip missing or inadequate	Install a fresh belt with proper breaker strip.
6. Take up tension too high	Recalculate tension and adjust the take up accordingly. Reduce take up tension to point of slip, and then tighten slightly.
7. Counterweight too light	Recalculate the counterweight required and adjust accordingly.
8. Damage by abrasives, acid, chemicals, heat, mildew, oil	Use belt with cover designed for specific condition. For abrasive materials working their way into cuts, make spot repairs with repair patches. Don't over lubricate idlers.
9. Drive underbelted	Recalculate maximum belt tensions and select correct belt.
10. Edge worn or broken	Remove badly worn out section and splice in a new section.
11. Excessive impact of material on belt	Use correctly designed chutes and baffles. Install loading idlers. Where possible, load fines first.
12. Excessive tension	Recalculate and adjust tension.
13. Frozen idlers	Free idlers, lubricate them and improve maintainence.
14. Idlers or pulleys out of square with center line of conveyor	Realign, and if possible install limit switches for greater safety.
15. Idlers improperly placed	Relocate idlers or insert additional idlers to support the belt.
16. Improper loading, spillage	Feed should be in direction of belt travel and at belt speed, centered on the belt. Control flow with feeders, chutes, skirtboards.
17. Improper storage of handling	Ensure that belts are stored properly prior to installation.
18. Insufficient traction between belt and pulley	Lag drive pulley. In wet conditions, use grooved lagging. Install correct cleaning devices for safety.
19. Material between belt and pulley	Use skirtboards properly. Remove accumulation and improve system maintenance.
20. Material build-up	Remove accumulation. Install cleaning devices
21. Pulley lagging worn	Replace worn pulley lagging. Use grooved lagging for wet conditions.
22. Pulleys too small	Use larger diameter pulleys.
23. Relative loading velocity too high or too low	Adjust chutes or correct belt speed.
24. Side loading	Load in direction of belt travel, in center of the conveyor.
25. Skirts improperly place	Install skirtboards so they don't rub against the belt.



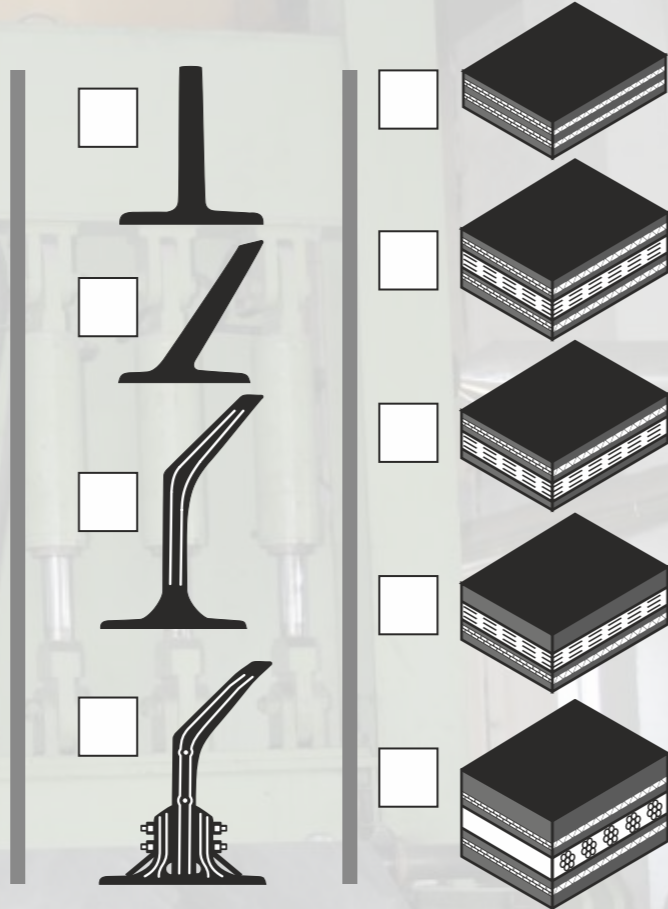
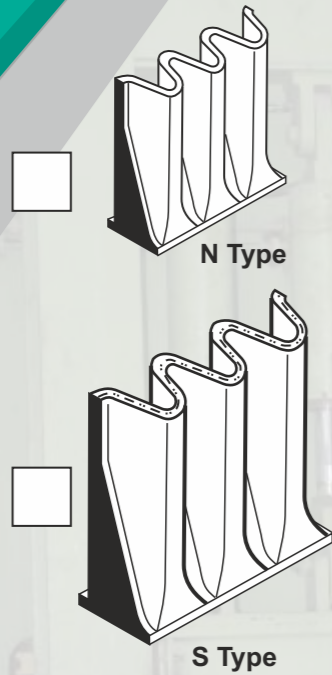
Complaint

Cause in Order of Likely Occurrence

Belt runs off tail pulley	7	14	13	16	20	-
Entire belt runs off at all points of the line	24	16	14	20	4	16
One belt section runs off at all points of the line	2	10	1	-	-	-
Belt runs off at head pulley	14	21	20	15	-	-
Belt runs to one side of the entire length	14	15	20	-	-	-
Belt slip	18	7	20	13	21	-
Belt slip on starting	18	7	21	9	-	-
Excessive belt stretch, belt sagging	12	9	20	6	8	-
Vulcanised splice separation	2	22	12	19	11	25
Excessive wear, including rips, gauges, ruptures	11	23	16	20	8	5
Excessive bottom cover wear	20	13	5	18	19	21
Excessive edge wear, broken edges	24	4	16	8	1	20
Cover swells in spots or streaks	8	-	-	-	-	-
Belt hardens or cracks	8	22	21	17	-	-
Covers become checked or brittle	8	17	-	-	-	-
Longitudinal grooving or cracking of top cover	25	13	20	11	-	-
Longitudinal grooving or cracking of bottom cover	13	20	21	-	-	-
Fabric decay, carcass cracks, ruptures	11	19	5	9	-	-
Soft spots in belt	5	8	11	19	-	-
Ply separation	12	22	10	8	3	-



ENQUIRY SHEET FOR REPLACEMENT BELTS



Company Name and Address
Project Name and Country
Contact Number
Fax
Email
Date

Base Belt Tensile Strength (N/mm)	Tick (✓), whichever is applicable
Belt Length (Endless / Open)	Standard , abrasion resistant
Belt Width (mm)	Mild oil, grease, and resin resistant
Free Lateral Space (mm)	Heat-resistant
Net Belt Width (mm)	Flame-resistant (ISO340/ En20340
Sidewall Height (mm)	Flame-resistant (US-MSHA)
Cleat Height & Pitch (mm)	Self-extinguishing (surface applic.)

