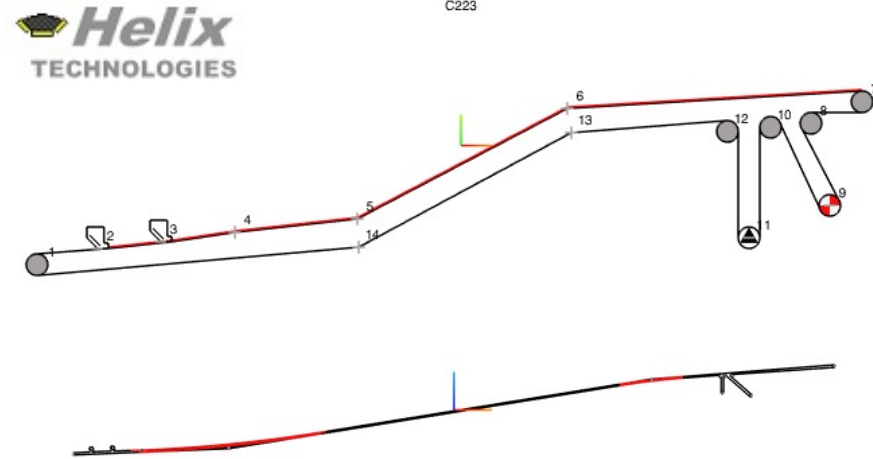


Project Demo 02 Conveyor High Lift
 Project No. P9823
 Conveyor No. C223

Client ABC Iron
 Prepared By Peter Burrow
 Design Date 01 Oct 2019



Belt Width	1800 mm
Belt Mass - New Belt	81.70 kg/m
Top Cover Mass - New Belt	44.75 kg/m
Bottom Cover Mass	14.24 kg/m
Worn Belt Mass	61.28 kg/m
Reduction of Top Cover Mass	45.6 %
Conveyed Material Mass	607.24 kg/m

% Belt Mass for Lift off Calculation	75 %
Curve Tension Safety Factor	1
Average Drive Torque safety Factor - Loaded	122 %
Average Drive Torque safety Factor - Empty	122 %
Belt Modulus	129,600 kN/m
Belt Rated Tension	Running: 253 kN/m Starting: 455.4 kN
Allowable Edge Tension	Running: 105 % Starting: 150 %

Station / Section Information				Running				Starting				Braking				Minimum Required Radius m
Station	Curve Type	Load Capacity tph	Design Curve Radius m	Fully Loaded		Empty		Fully Loaded		Empty		Fully Loaded		Empty		
				Tension kN	Radius m	Tension kN	Radius m	Tension kN	Radius m	Tension kN	Radius m	Tension kN	Radius m	Tension kN	Radius m	
1	Tail			119.62		119.62		122.85		167.55		93.39		107.99		
2	Hopper	9,400		121.40		121.40		124.87		172.91		93.20		108.89		
3	Hopper	9,400		142.78		121.88		147.02		175.76		108.29		108.80		

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Station / Section Information				Running				Starting				Braking				Minimum Required Radius m
Station	Curve Type	Load Capacity tph	Design Curve Radius m	Fully Loaded		Empty		Fully Loaded		Empty		Fully Loaded		Empty		
				Tension kN	Radius m	Tension kN	Radius m	Tension kN	Radius m	Tension kN	Radius m	Tension kN	Radius m	Tension kN	Radius m	
4	Int. Pt	9,400		155.17		122.39		160.44		179.42		112.27		108.54		
5	Int. Pt	Concave	9,400	600	169.73		123.86	177.98		187.36		102.62		108.44		
		Min Concave Lift Off Radius			282		206		296		312		171		180	
		Min Edge Tension Radius			118		162		113		107		196		185	
		Max Centre Tension Radius			87		75		89		92		71		72	
6	Int. Pt	Convex	9,400	300	371.50		147.48	394.26		242.65		186.42		124.37		
		Min Edge Tension Radius			501		162		637		227		183		151	
		Max Buckling Radius			77		214		72		122		163		263	
		Belt Edge Tension Rise at Curve kN			200.71		200.71		200.71		200.71		200.71		200.71	
		Total Edge Tension at Curve kN and %			572.2	126 %	348.19	76 %	594.96	131 %	443.36	97 %	387.12	85 %	325.08	71 %
		Centre Tension at Curve kN			304.6		214.38		327.36		175.75		119.52		57.47	
7	Head				418.40		153.10	447.43		262.60		182.32		126.51		
8	Bend				422.63		154.64	452.36		274.62		180.81		125.51		
9	Drive				421.64		150.93	451.75		276.46		176.78		120.45		
10	Bend				134.48		134.47	134.27		131.31		138.57		134.84		
11	Takeup				130.92		130.92	130.92		130.92		130.92		130.92		
12	Bend				137.58		137.58	137.79		140.77		135.83		136.80		
13	Int. Pt	Convex		300	137.89		137.89	138.56		147.74		132.51		135.51		
		Min Edge Tension Radius				0	0		0		0		0		0	
		Max Buckling Radius				0	0		0		0		0		0	
		Belt Edge Tension Rise at Curve kN			Flat Belt		Flat Belt		Flat Belt		Flat Belt		Flat Belt		Flat Belt	
		Total Edge Tension at Curve kN and %				%	%		%		%		%		%	
		Centre Tension at Curve kN														
14	Int. Pt	Concave		600	119.29		119.29	121.84		157.08		98.61		110.12		

Vertical Curve Radius Calculations
Helix Technologies Pty Ltd

Project	Demo 02 Conveyor High Lift	Client	ABC Iron
Project No.	P9823	Prepared By	Peter Burrow
Conveyor No.	C223	Design Date	01 Oct 2019

Station / Section Information				Running				Starting				Braking				Minimum Required Radius m
Station	Curve Type	Load Capacity tph	Design Curve Radius m	Fully Loaded		Empty		Fully Loaded		Empty		Fully Loaded		Empty		
				Tension kN	Radius m	Tension kN	Radius m	Tension kN	Radius m	Tension kN	Radius m	Tension kN	Radius m	Tension kN	Radius m	
	Min Concave Lift Off Radius				199		199		203		261		164		183	261
	Min Edge Tension Radius				168		168		165		128		204		182	
	Max Centre Tension Radius				0		0		0		0		0		0	