

APPLICATION WORKSHEET - BULK MATERIALS HANDLING

Motorized Pulleys - Complete this form and submit to Rulmeca for a power calculation and Motorized Pulley recommendation.

Contact Person..... Date..... Ref #

Company.....

Address.....

Phone..... Fax..... E-mail.....

What is the application? (Describe type of application, material and ambient condition)

Abrasive Corrosive Very dirty Wet Wash Down Humid Dry Dusty Other

Standard Loading Conditions:

Conveyor Length (m) _____
 Belt Speed (m/s) _____
 Throughput (tph) _____
 Material Lift Height (m) _____
 Ambient Temperature (°0) Min _____
 Ambient Temperature (°0) Max _____
 Initial Velocity of Material (m/s) _____
 Number of Belt Cleaners _____
 Number of Belt Plows _____
 Length of Skirt Zone (m) _____
 Depth of Material in Skirt Zone (mm) _____
 Number of Nondriven Pulleys _____

Elevation (km)	Idler Roll Diam. (mm)	Type of Lagging
<input type="checkbox"/> 1.0	<input type="checkbox"/> 108	<input type="checkbox"/> Full
<input type="checkbox"/> 1.5	<input type="checkbox"/> 133	<input type="checkbox"/> Partial
<input type="checkbox"/> 2.0	<input type="checkbox"/> 159	<input type="checkbox"/> None
<input type="checkbox"/> 3.0		
<input type="checkbox"/> 4.0		
<input type="checkbox"/> 5.0		
<input type="checkbox"/> Other		

Belt Width (mm)	CEMA Type	Type of Take-up
<input type="checkbox"/> 500	<input type="checkbox"/> A	<input type="checkbox"/> Automatic
<input type="checkbox"/> 650	<input type="checkbox"/> B	<input type="checkbox"/> Manual
<input type="checkbox"/> 800	<input type="checkbox"/> C	<input type="checkbox"/> None
<input type="checkbox"/> 900	<input type="checkbox"/> D	
<input type="checkbox"/> 1000	<input type="checkbox"/> E	
<input type="checkbox"/> 1200	<input type="checkbox"/> Troughing Idler Spacing (m)	<input type="checkbox"/> Angle of Wrap (deg)
<input type="checkbox"/> 1400		
<input type="checkbox"/> 1600	<input type="checkbox"/> 0.8	<input type="checkbox"/> 180
<input type="checkbox"/> 1800	<input type="checkbox"/> 1.0	<input type="checkbox"/> 200
<input type="checkbox"/> 2000	<input type="checkbox"/> 1.2	<input type="checkbox"/> 210
	<input type="checkbox"/> 1.4	<input type="checkbox"/> 220
	<input type="checkbox"/> 1.6	<input type="checkbox"/> 240
		<input type="checkbox"/> 360
		<input type="checkbox"/> 420

Type of Belt	Belt Carcass
<input type="checkbox"/> 1 ply, 160 piw	<input type="checkbox"/> fabric
<input type="checkbox"/> 2 ply, 225 piw	<input type="checkbox"/> steel cord
<input type="checkbox"/> 3 ply, 330 piw	
<input type="checkbox"/> 4 ply, 440 piw	

Frequency Hz 50/60 _____ Hz

OPTIONS:

Lagging? Rubber? Black? White? Smooth? Diamond?
 Ceramic? Oil, fat & grease? Thickness? _____ (mm) Dust explosion proof - ATEX - Zone 22
 Matching terminal box Dualdrive
 With cable Straight connector Elbow connector 90° Non-regreasable Total in stainless steel labyrinth seals
 Food application Re-greaseable labyrinth seals Parallel shell (cylindrical)
 Reversible belt Electromagnetic brake Anti-clockwise direction
 Mechanical backstop Clockwise direction Anti-clockwise direction
 Idler Pulley Qty: _____ Mounting bracket Qty: _____

NOTES: special options _____

Please attach a photo, drawing or sketch of the application

Material (frictional coefficient)

<input type="checkbox"/> ashes, coal, dry	0.0571
<input type="checkbox"/> bauxite, ground	0.1881
<input type="checkbox"/> cement, Portland, dry	0.2120
<input type="checkbox"/> cement clinker	0.1228
<input type="checkbox"/> clay, ceramic, dry fines	0.0924
<input type="checkbox"/> coal, bituminous mined	0.0754
<input type="checkbox"/> coke, ground fine	0.0452
<input type="checkbox"/> cullet (broken glass)	0.0836
<input type="checkbox"/> grains, wheat, corn, rye	0.0433
<input type="checkbox"/> gravel, bank run	0.1145
<input type="checkbox"/> iron ore, 200 lbs/cu ft	0.2760
<input type="checkbox"/> limestone, pulverized dry	0.1280
<input type="checkbox"/> phosphate rock, dry	0.1086
<input type="checkbox"/> salt, common, dry fine	0.0814
<input type="checkbox"/> sand, dry, bank	0.1378
<input type="checkbox"/> wood chips	0.0095

Material Bulk Density (kg/m³)

<input type="checkbox"/> ashes, coal, wet	800
<input type="checkbox"/> bagasse	160
<input type="checkbox"/> bark, wood	320
<input type="checkbox"/> bauxite, ground, dry	1090
<input type="checkbox"/> bauxite, crushed	1370
<input type="checkbox"/> beans, navy, dry	770
<input type="checkbox"/> beets, whole	770
<input type="checkbox"/> borax, 3" & under	1120
<input type="checkbox"/> cement, portland	1590
<input type="checkbox"/> clay, ceramic, dry, fines	1280
<input type="checkbox"/> clay, dry, fines	1920
<input type="checkbox"/> coal, bituminous	880
<input type="checkbox"/> coal, lignite	720
<input type="checkbox"/> coke	720
<input type="checkbox"/> corn, ear	900
<input type="checkbox"/> cullet	1920
<input type="checkbox"/> gravel, bank run	1600
<input type="checkbox"/> iron ore	3200
<input type="checkbox"/> iron ore pellets	2080
<input type="checkbox"/> limestone, crushed	1440
<input type="checkbox"/> paper pulp stock	960
<input type="checkbox"/> phosphate rock	1360
<input type="checkbox"/> potash salts	1280
<input type="checkbox"/> rock, crushed	2320
<input type="checkbox"/> rock, soft	1760
<input type="checkbox"/> rye	740
<input type="checkbox"/> salt, common dry, fine	1280
<input type="checkbox"/> sand, bank, damp	2080
<input type="checkbox"/> sand, bank, dry	1760
<input type="checkbox"/> sand, foundry	1600
<input type="checkbox"/> sawdust	210
<input type="checkbox"/> sewage sludge, moist	880
<input type="checkbox"/> soybeans, whole	800
<input type="checkbox"/> sugar, raw, cane	1040
<input type="checkbox"/> taconite pellets	2080
<input type="checkbox"/> traprock, 23" lumps	1760
<input type="checkbox"/> wheat, cracked	720
<input type="checkbox"/> wood chips	480

Operating Conditions:

Duty Cycle (Start/stops per hour) _____
 Hours of Operation (hrs/day) _____
 Days of Operation (days/week) _____
 Is this a reversing belt? _____
 Additional Comments: _____

Special Loading Conditions:

Hopper Feeder Parameters:
 Hopper Opening Width (mm) _____
 Hopper Opening Length (mm) _____

Slider Bed Parameters:

Slider Bed Length (m) _____

Slider Bed Material (frictional coefficient)

<input type="checkbox"/> steel	0.90
<input type="checkbox"/> UHMW polyethylene	0.545
<input type="checkbox"/> urethane	0.88
<input type="checkbox"/> wood	1.00

Sidewall & Cleated Belt Parameters:

Sidewall & cleat height (mm) _____
 Thickness of sidewall (mm) _____
 Distance between cleats (mm) _____
 Thickness of cleats (mm) _____

Tripper Design Parameters:

Tripper Length (m) _____
 Tripper Material Lift Height (m) _____
 Number of Tripper Belt Cleaners _____
 Tripper Skirt Zone Length (m) _____
 Depth of Material in Skirt Zone (mm) _____
 No. of Tripper Nondriven Pulleys _____
 No. of Vploughs _____

For free "downloadable" power calculation program, complete with definitions of all terminology, go to www.rulmeca.com.