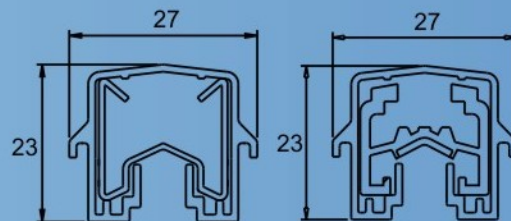




SAFE-LINE W

The Individual Conductor Bar System



Wide Range of Conductor Bar System



MOBILE ELECTRIFICATION SYSTEMS

SAFE-LINE W

The Individual Conductor Bar System

Safeline W-Individual

Safeline-W Insulated conductor bars are used for power transmission. Current Capacity ranges from 60 Amps. to 1250 Amps rated at 100% duty cycle & nominal voltage upto 660 V. They fulfill the requirements of latest international standards.

All are safe to touch and designed finger proof. Conductor rail provide a safe and economical supply of electrical power for track guided mobile machinery

SAFELINE W Features

Insulated conductor are touch proof, no exposed live parts to contact.

Quick and easy installation with single bolt, 4 pole hanger.

60 to 400 Amps. Conductor in same standard

60,100 & 125 Amps. Galvanised Steel

200 & 315 Amps. Aluminium / Stainless Steel

160,250 & 400 Amps rolled Copper.

4.5 meters bar length

Cover designed to shed water and dust

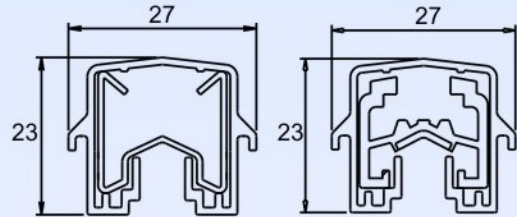
Joint cover provides total protection of joints.

Enclosed wiring for connection on collectors for safe and simple installation.

No expansion joints up to 150 meters long system

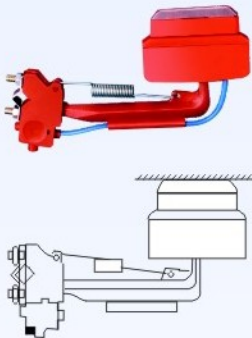
Slide in slot features for hanger supports to eliminate mis-alignment

Track configuration :Straight or Curved.

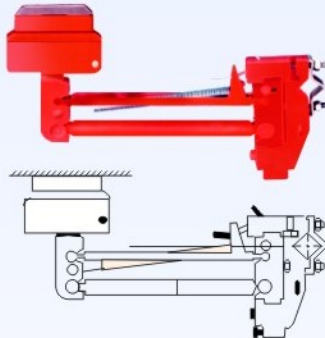


COMPONENTS / PARTS

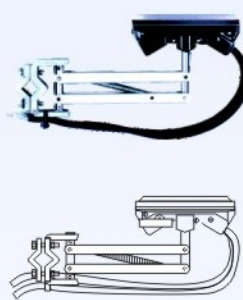
50 Amps Collector



100 Amps Collector



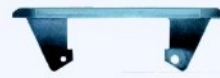
250 Amps Collector



50 Amps & 100 Amp Shoe and Holder



250 Amp Shoe



End Powerfeed



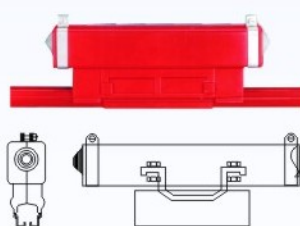
End Cover



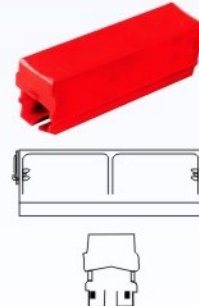
Steel Joint / Copper Joint



Power feed & Cover



Joint Cover



Web Bracket



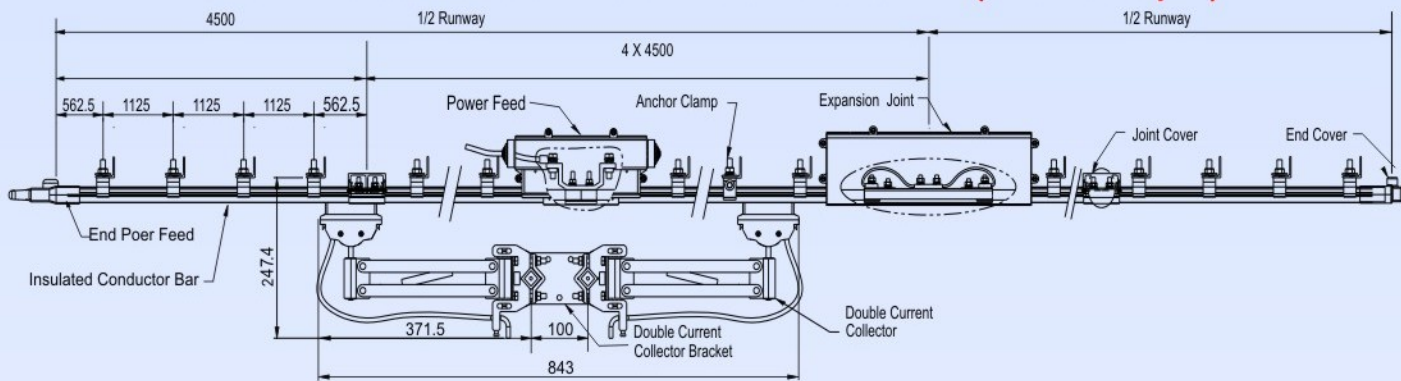
Collector Bracket



"Our customer do not buy our products, They buy the benefits that our product provides."

Conductor Bar System- Bolted Joint

SYSTEM ARRANGEMENT FOR SAFELINE - W (60-400Amps.)



FEATURES

- Touch proof, no exposed live part
- Quick & easy Installation.
- Bolted Joint.
- 1 pole / 4 Pole Hanger.
- Insulating cover shaped to shed water and dust.
- 60 to 400 Amps. Conductor in same standard.
- No Expansion Joints upto 150 meters long system.
- Track Configuration : Straight or Curved.
- Suitable for Indoor / Outdoor Installation.

Technical data Safeline-W Bolted Joint Conductor System

Conductor Bar System	Galvanised steel			Copper			Aluminium / SS	
	WG-60	WG-100	WG-125	WC-160	WC-250	WC-400	WA-200	WA-315
Type								
Nominal current (A) At 100% Duty and 35° C	60	100	125	160	250	400	200	315
DC resistance (Ω/M) At +35°C	0.003584	0.002867	0.001933	0.000342	0.000274	0.000184	0.000301	0.000261
Impedance (Ω/M) At +35°C	0.003604	0.002891	0.001968	0.000364	0.000300	0.000221	0.000325	0.000288
Voltage grade [V]	600							
Support Spacing [mm]	1125							
Bar Length [mm]	4500							
Outside dimensions [mm]	23 x 27							
Permissible ambient temperature	-30°C + 55°C (Standard Insulation) -30°C + 85°C (High Temperature Insulation)							

High temperature insulation on request upto 115° Bayblend.

High temperature insulation on request

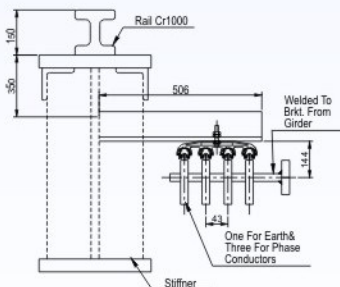
The Intermittent Rating for Conductors

	% RATING			
	100%	80%	60%	40%
ALLOWABLE CURRENT (AMPS)	60	66	77	94
	100	111	129	158
	125	138	161	197
	160	177	206	252
	200	222	258	316
	250	277	322	395
	315	349	406	497
	400	444	516	632
	500	555	645	790
	800	888	1032	1264
1000	1110	1290	1590	
1250	1387	1612	2038	

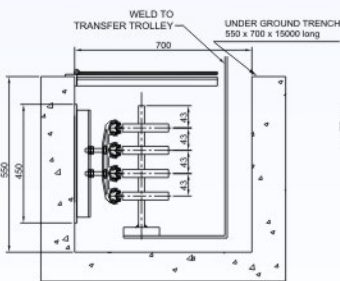
Current capacity factor for different ambient temperature

Ambient temperature		35°C	40°C	45°C	50°C	55°C	60°C	65°C	70°C	75°C	80°C	85°C
Standard Insulation	Aluminium rail	fA	1.0	0.92	0.81	0.76	0.68					
	Copper rail		1.0	0.93	0.87	0.82	0.78					
High Temperature Insulation	Aluminium rail	fA				1.0	0.92	0.81	0.76	0.68	0.63	0.59
	Copper rail					1.0	0.93	0.87	0.82	0.78	0.74	0.72

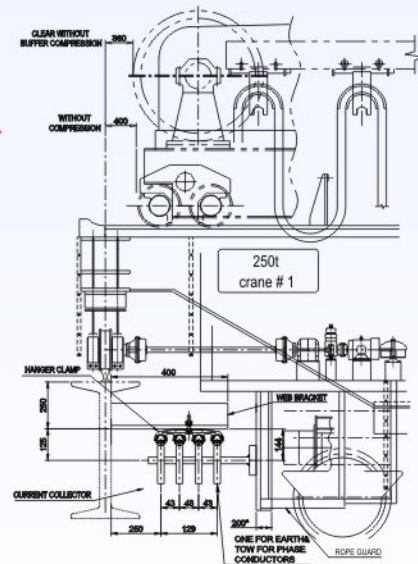
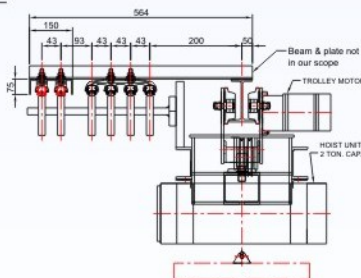
INSTALLATIONS TYPICAL



Horizontal operation of current collectors

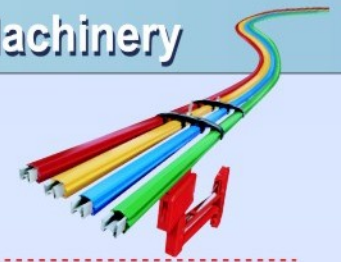


Vertical operation of current collectors



General Arrangement

Safe & Reliable Power Transmission for Mobile Machinery



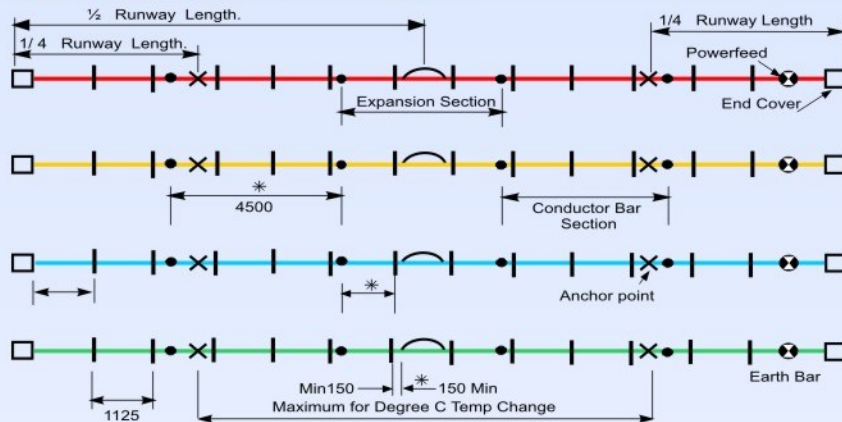
SAFE-LINE W

The Individual Conductor Bar System

NOMENCLATURE

- Single Conductor
- Conductor System
- Expansion Section
- End cap
- Isolating Switch
- Hanger Clamp
- X — Anchor Position
- Powerfeed
- Collector
- Switch Fuse

TYPICAL LAYOUT OF A 3 PHASE AND EARTH CONDUCTOR SYSTEM SAFE-LINE W (60Amps to 400 Amps)



Effects of various Power feed Positions on Volt Drop Calculations.

Selection of feed-in points. The feed-in point for every application must be selected because the length L between power feed and conductor rail end is used for calculating the voltage drop. Following feed - in points can normally be used.

Powerfeed Position	Schematic Diagram Collector symbol Indicates Positions of Maximum Volt Drop	Effective Length to be used in Volt Drop Calculations	Voltage Drop
Endfeed		$LVD = L$	The allowable volt drop determines, the maximum allowable resistance of conductor. The value of volt drop within a conductor system is effected by effective length of system and current drawn. Volt Drop Calculation For A. C. Machine 3 phase ΔU Volt drop = length (D) x Impedance (Z) x Current (I) x $3\sqrt{}$ $U \% = \frac{\Delta U}{U_n} \times 100 [\%]$
Center-feed		$LVD = \frac{L}{2}$	
Two end feed		$LVD = \frac{L}{4}$	
Two feeds both in from end		$LVD = \frac{L}{6}$	
Three feeds at Lin from ends 10 and centre		$LVD = \frac{L}{10}$	

PRODUCT RANGE - INDIVIDUAL

System Design	Insulated Conductor Bar			Heavy Conductor Bar		Enclosed Conductor Bar
Conductor Bar System	Safeline - W	Safeline - M	Safeline - C	Safeline - V	Safeline - V	Safeline - E
Type of Joints	Bolted	Pin	Joint Less	Aluminium	Copper	Bolted /Joint less
Nominal Current (A)	60 - 400	60-315	40-140	500 -800-1000-1250	500-800-1000-1250-2000	40-60-80-100-140
Volts (V)	600	600	600	600	600	600
Support Spacing (m)	1.125	1.125	1.2	2.25	2.25	1.333
Bar Cover Length (mm)	4500	4500	4800	4500	4500	4000
Outside Dimensions (mm)	23 x 27	20 x 22	34 x 19	42 x 32	42 x 32	85 x 56

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Fax : 022 - 28518516 ♦ Telefax : 022 - 28523183 ♦ E-mail : sales@safeline.in ♦ Visit us at : stromagengineers.com