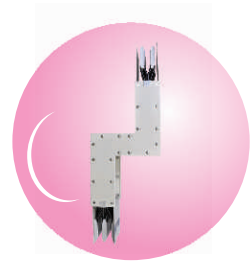
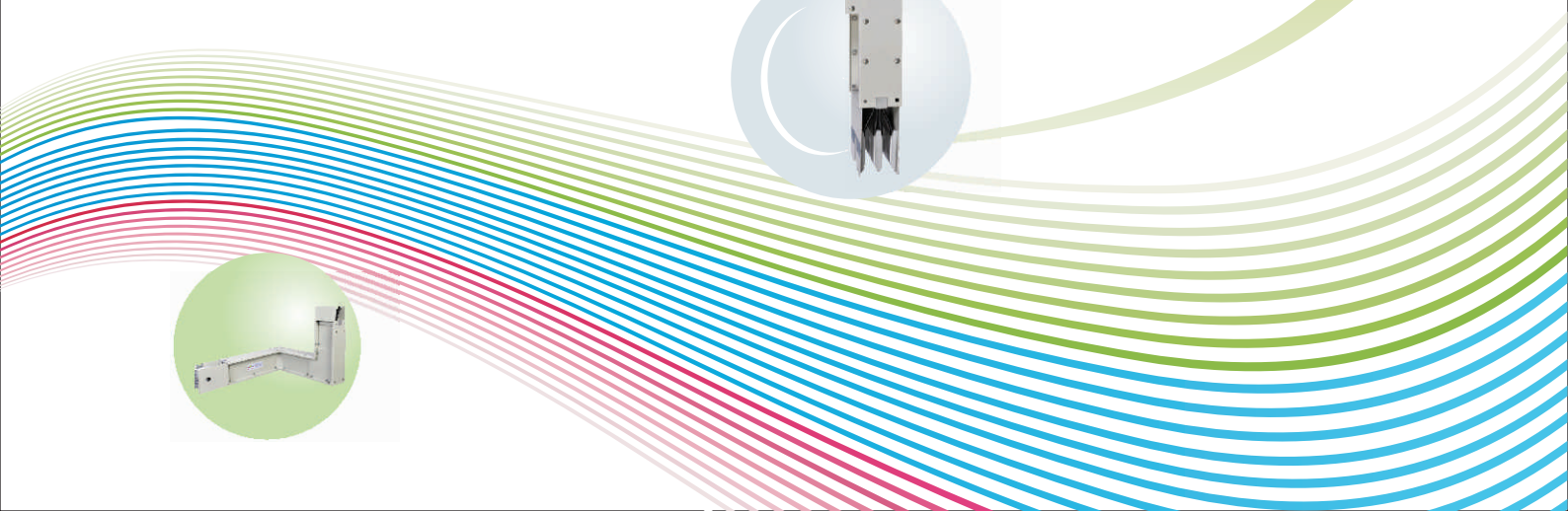


EFFICIENT & S.M.A.R.T



SANDWICH BUS DUCT SYSTEMS



OUTSTANDING FEATURES

OF GODREJ S.M.A.R.T. BUSDUCT SYSTEMS

Superior Sandwich Design

Its Sandwich and modular design requires less space for installation. Non-ventilated, light weight, low impedance, naturally cooled and totally enclosed design which ensures protection against any mechanical damages and dust accumulation.

Fire Retardant Insulation

High quality "Class F" epoxy insulation of 1.6mm is done over the entire length of the Conductor with an extruding machine. The insulation is fire retardant, ensuring complete safety even in worst case of fire. No fire barriers are required within the housing. Thus saving additional costs.

Maintenance Free Single Bolt Joint Mechanism

The joints are provided with high tensile bolts and Maintenance Free nuts where the outer head will be twisted off once the specified torque of 14.5-kg-m is reached and then it acts as lock nut. All bolted connections are equipped with Belleville washers.

High Quality Conductors

99.9% pure conductors are tinned throughout the length of copper to ensure zero oxidation & formation of hotspots and thus ensuring efficient transfer of power and longer life. Further, for Aluminium conductors, the contact points are special coated to felicitate high conductivity of current.

High Withstand Voltage

Operating voltage of 415 volts and withstand voltage of 10,000 volts allows the system to operate successfully under severe conditions.

Lower Temperature Rise

Superior design and larger cross sectional area of conductors ensure that temperature rise shall not exceed 55 degree Celcius, which is above the ambient temperature of 40 degrees.

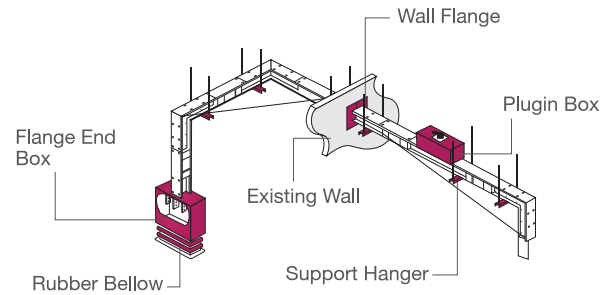
GI Housing

Electro Galvanised 1.6mm thick housing provides better strength to the system, ensuring longer life and safety under severe conditions. The entire housing is Epoxy powder coated to prevent from corrosion and atmospheric conditions.

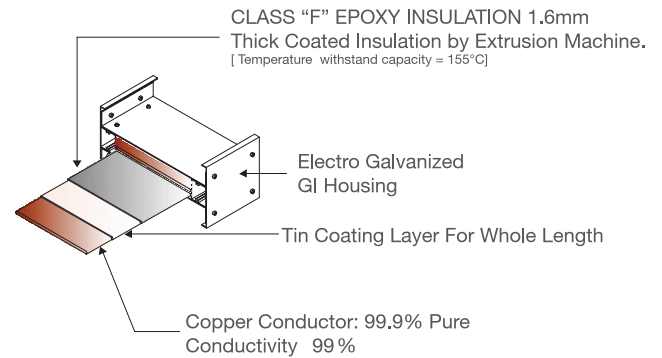
CPRI Certification

Godrej Smart Busduct have been successfully tested & certified for 100 KA short circuit, for 1 second Temperature rise and flame propagation test as per IEC 60439 Part 1 & 2.

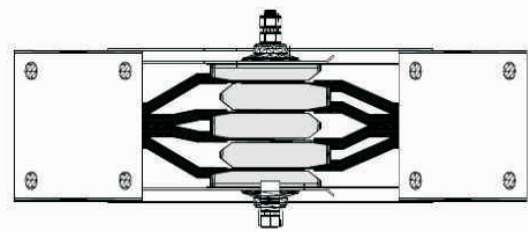
BusDuct System



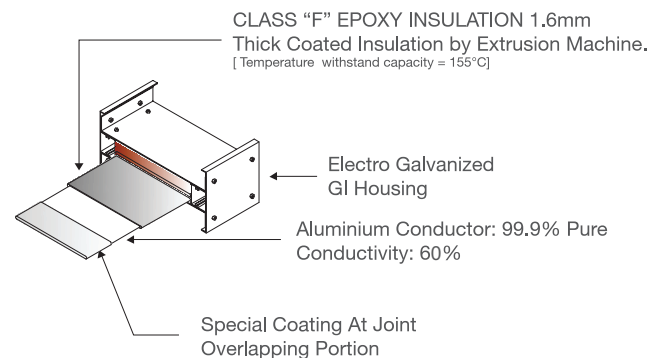
Tinned Copper Conductor



Single Bolt Joint Mechanism



Special Coated Aluminium Conductor



Copper Content And Weight

Ampere Rating	Height(H)		BusBar		Weight(Kg/m)		Width(W) (mm)	
	mm	Type	Size (mm)	3PH 3W	3PH 4W	3PH 3W	3PH 4W	
400	115	Fig.1	One-5x50	21	25	105	125	
630	125		One-5x60	22	27			
800	125		One-6x60	24	30			
1000	140		One-6x75	30	32			
1250	165		One-6x100	35	43			
1600	205		One-6x140	43	50			
2000	240	Fig.2	One-6x175	45	62	105	125	
2500	305		One-6x240	58	80			
3200	405		Two-6x140	76	93			
3600	475	Fig.3	Two-6x175	86	114	105	125	
4000	495		Two-6x185	99	123			
4500	605	Fig.3	Three-6x140	118	140	105	125	
5000	710		Three-6x175	134	171			
6300	740		Three-6x185	141	179			

Aluminium Content And Weight

Ampere Rating	Height(H)		BusBar		Weight(Kg/m)		Width(W) (mm)	
	mm	Type	Size (mm)	3PH 3W	3PH 4W	3PH 3W	3PH 4W	
400	125	Fig.1	One-5x60	18	22	105	125	
630	125		One-6x60	19	24			
800	140		One-6x75	24	28			
1000	165		One-6x100	28	34			
1250	205		One-6x140	34	39			
1600	250		One-6x185	42	46			
2000	305	Fig.2	One-6x240	48	54	105	125	
2500	405		Two-6x140	50	59			
3200	475		Two-6x175	63	74			
3600	495	Fig.3	Two-6x185	65	65	105	125	
4000	605		Two-6x240	72	85			
4500	710	Fig.3	Three-6x175	76	89	105	125	
5000	905		Three-6x240	85	100			

Impedence

Unit: 10⁻⁵ Ω/m

Ampere Rating	Size	3Ø 50 Hz			3Ø 60 Hz			
		R _{AC}	X	√R _{AC} ² +X ²	R _{AC}	X	√R _{AC} ² +X ²	
COPPER	400	One-5x50	7.15	2.83	7.69	7.18	3.4	7.94
	630	One-5x60	6.96	2.12	7.28	7	2.65	7.48
	800	One-6x60	6.45	2.14	6.8	6.49	2.61	7
	1000	One-6x75	5.1	1.68	5.37	5.14	2.05	5.53
	1250	One-6x100	4.03	1.23	4.21	4.05	1.55	4.34
	1600	One-6x140	2.74	0.86	2.87	2.77	1.06	2.97
	2000	One-6x175	2.19	0.76	2.32	2.22	0.95	2.41
	2500	One-6x240	1.55	0.65	1.68	1.58	0.77	1.76
	3200	Two-6x140	1.33	0.49	1.42	1.37	0.6	1.5
	3600	Two-6x175	1.08	0.41	1.16	1.12	0.52	1.23
	4000	Two-6x185	0.99	0.36	1.05	1.03	0.46	1.13
	4500	Three-6x140	0.89	0.3	0.94	0.91	0.41	1
	5000	Three-6x175	0.75	0.28	0.8	0.78	0.33	0.85
6300	Three-6x185	0.68	0.24	0.72	0.7	0.29	0.76	

Impedence

Unit: 10⁻⁵ Ω/m

Ampere Rating	Size	3Ø 50 Hz			3Ø 60 Hz			
		R _{AC}	X	√R _{AC} ² +X ²	R _{AC}	X	√R _{AC} ² +X ²	
ALUMINIUM	400	One-5x60	11.90	2.63	12.19	11.94	3.17	12.35
	630	One-6x60	11.25	2.11	11.45	11.28	2.63	11.58
	800	One-6x75	7.85	1.67	8.03	7.87	2.06	8.14
	1000	One-6x100	6.32	1.46	6.49	6.36	1.74	6.59
	1250	One-6x140	3.94	1.2	4.12	3.97	1.51	4.25
	1600	One-6x185	2.76	0.85	2.89	2.78	1.05	2.97
	2000	One-6x240	2.23	0.67	2.33	2.26	0.75	2.38
	2500	Two-6x140	1.73	0.56	1.82	1.75	0.67	1.87
	3200	Two-6x175	1.34	0.45	1.41	1.37	0.56	1.48
	3600	Two-6x185	1.15	0.31	1.19	1.18	0.39	1.24
	4000	Two-6x240	1.03	0.27	1.06	1.06	0.3	1.1
	4500	Three-6x175	0.90	0.21	0.92	0.92	0.24	0.95
	5000	Three-6x240	0.76	0.12	0.77	0.79	0.16	0.81

Voltage Drop

V/100m

Ampere Rating	Busbar Sizes(mm)	Voltage Drop 3Ø 50 Hz						Voltage Drop 3Ø 60 Hz						
		Power Factor						Power Factor						
		1	0.95	0.9	0.85	0.8	0.75	1	0.95	0.9	0.85	0.8	0.75	
COPPER	400	One-5x50	4.95	5.32	5.31	5.24	5.14	5.01	4.97	5.46	5.5	5.47	5.39	5.29
	630	One-5x60	7.59	7.94	7.84	7.67	7.46	7.23	7.64	8.16	8.14	8.02	7.85	7.64
	800	One-6x60	8.94	9.42	9.34	9.16	8.93	8.66	8.99	9.67	9.67	9.55	9.36	9.14
	1000	One-6x75	8.83	9.3	9.22	9.04	8.81	8.55	8.9	9.57	9.56	9.44	9.25	9.03
	1250	One-6x100	8.73	9.12	9.01	8.82	8.58	8.31	8.77	9.38	9.35	9.22	9.03	8.8
	1600	One-6x140	7.59	7.96	7.87	7.71	7.5	7.27	7.68	8.21	8.19	8.07	7.9	7.7
	2000	One-6x175	7.59	8.03	7.98	7.84	7.65	7.43	7.69	8.33	8.36	8.27	8.13	7.94
	2500	One-6x240	6.71	7.26	7.27	7.19	7.06	6.9	6.84	7.54	7.61	7.57	7.47	7.34
	3200	Two-6x140	7.37	7.85	7.82	7.7	7.53	7.33	7.59	8.25	8.28	8.21	8.07	7.89
	3600	Two-6x175	6.55	7	6.98	6.87	6.73	6.55	6.79	7.43	7.48	7.43	7.32	7.18
	4000	Two-6x185	6.86	7.29	7.26	7.14	6.98	6.79	7.14	7.77	7.81	7.74	7.62	7.46
	4500	Three-6x140	6.94	7.32	7.26	7.13	6.95	6.75	7.09	7.74	7.78	7.71	7.59	7.43
	5000	Three-6x175	6.5	6.93	6.9	6.8	6.65	6.48	6.76	7.31	7.33	7.25	7.12	6.96
6300	Three-6x185	7.42	7.87	7.82	7.69	7.51	7.3	7.64	8.24	8.25	8.16	8.01	7.82	

COPPER	400 ~ 2500A	3200 ~ 4000A	4500 ~ 6300A
ALUMINIUM	400 ~ 2000A	2500 ~ 4000A	4500 ~ 5000A
TYPE	FIGURE 1	FIGURE 2	FIGURE 3

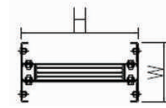


Fig 1

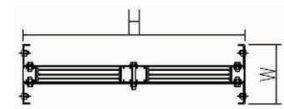


Fig 2

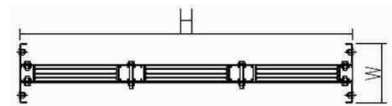


Fig 3

Voltage Drop

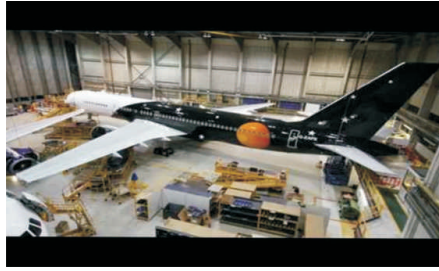
V/100m

Ampere Rating	Busbar Sizes(mm)	Voltage Drop 3Ø 50 Hz						Voltage Drop 3Ø 60 Hz						
		Power Factor						Power Factor						
		1	0.95	0.9	0.85	0.8	0.75	1	0.95	0.9	0.85	0.8	0.75	
ALUMINIUM	400	One-5x60	8.24	8.4	8.21	7.97	7.69	7.39	8.27	8.54	8.4	8.19	7.94	7.66
	630	One-6x60	12.28	12.38	12.05	11.65	11.2	10.7	12.31	12.59	12.33	11.97	11.57	11.13
	800	One-6x75	10.88	11.06	10.8	10.46	10.09	9.69	10.9	11.25	11.06	10.77	10.44	10.07
	1000	One-6x100	10.95	11.19	10.95	10.64	10.27	9.88	11.02	11.41	11.23	11.95	10.62	10.26
	1250	One-6x140	8.53	8.92	8.81	8.62	8.38	8.12	8.6	9.19	9.16	9.03	8.84	8.61
	1600	One-6x185	7.65	8	7.91	7.74	7.53	7.29	7.7	8.23	8.2	8.08	7.91	7.7
	2000	One-6x240	7.72	8.06	7.96	7.79	7.57	7.33	7.83	8.25	8.18	8.02	7.82	7.59
	2500	Two-6x140	7.49	7.87	7.8	7.64	7.45	7.22	7.58	8.1	8.08	7.97	7.8	7.6
	3200	Two-6x175	7.43	7.83	7.77	7.63	7.44	7.22	7.59	8.18	8.19	8.09	7.94	7.75
	3600	Two-6x185	6.97	7.21	7.09	6.92	6.7	6.47	7.15	7.53	7.47	7.33	7.14	6.93
	4000	Two-6x240	7.14	7.36	7.24	7.05	6.83	6.59	7.34	7.63	7.52	7.34	7.12	6.88
	4500	Three-6x175	7.01	7.18	7.03	6.82	6.59	6.34	7.17	7.4	7.27	7.08	6.86	6.62
	5000	Three-6x220	6.58	6.58	6.38	6.14	5.89	5.62	6.84	6.93	6.76	6.55	6.3	6.05

SOME MAJOR BUS DUCT SYSTEM INSTALLATIONS



ONGC Oil Platform



MRO Boeing



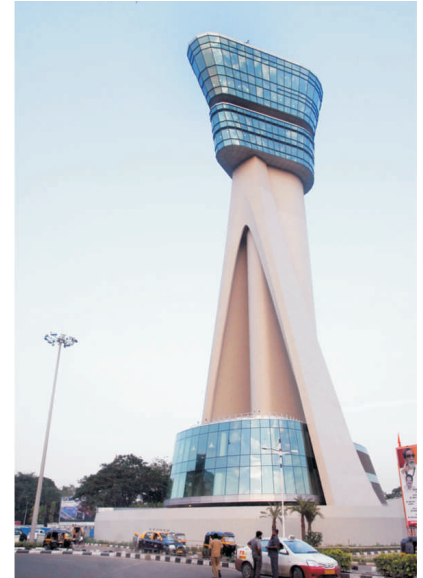
Delhi Metro Rail Corporation



RENAULT



Gift City, Ahmedabad



ATC Tower, Mumbai

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