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(Note: Please click on any of the Item for its specifications)

Drill Rod

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Specification
Drill Rod	Coal Drill Rod, Diamond section, shall be manufactured from EN-9 steel confirming to IS: 7868(latest). The Drill rod shall marked with Manufacturer's name/Trade mark. Size – 1- 9/16" (39 mm) dia., 6' (1.82 m) long. The drill rod shall be suitable for accommodating 1-11/16" (43 mm) dia drill bit for drilling in coal. Hardness at the core surface: 200HV +/- 10 counts. Hardness at the fine surface: 240V +/- 10 counts the difference in hardness at the above surface and fine surface will not exceed 50 HV with tolerance as per IS: 7868(latest).

Coal Drill Bit

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Specification
Coal Drill Bit	Coal Drill Bit of Size 1 $^{11/16}$ inches Dia. Tungsten Carbide Tipped for use with 1 $^{9/16}$ inches Dia. Diamond Section Rod. Conforming to IS: 8166 with up to date amendments.

M.S Nuts & Bolts

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Specification
M.S Nuts & Bolts	M S NUT & Bolt of ½ inche X 1 ½ inches size having BSW Thread (Rough) – Full Thread.
	M S NUT & Bolt of 5/8 inche X 1 ½ inches size having BSW Thread (Rough) – Full Thread.
	M S NUT & Bolt of ½ inche X 2 inches size having BSW Thread (Rough) – Full Thread.
	M S NUT & Bolt of 5/8 inche X 2 inches size having BSW Thread (Rough) – Full Thread.
	M S NUT & Bolt of 5/8 inche X 2 ½ inches size having BSW Thread (Rough) – Full Thread.
	M S NUT & Bolt of 5/8 inche X 3 inches size having BSW Thread (Rough).
	M S NUT & Bolt of ¾ inche X 3 inches size having BSW Thread (Rough).
	M S NUT & Bolt of ¾ inche X 4 inches size having BSW Thread (Rough).

M.S Electrodes

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Specification
M.S Electrodes	General Purpose all position M.S Electrodes (4.0 mm X 450 mm) suitable for general purpose repair & maintenance welding etc. confirming to IS 814-1991/IS 814-2004.
	General Purpose all position M.S Electrodes (3.15 mm X 450 mm) suitable for general purpose repair & maintenance welding etc. confirming to IS 814-1991/IS 814-2004.
	General Purpose all position M.S Electrodes (5.0 mm X 450 mm) suitable for general purpose repair & maintenance welding etc. confirming to IS 814-1991/IS 814-2004.
	All position Steel Electrodes (4.0 mm X 350 mm) suitable for repair of HEMM parts like shafts, Gears, Pinions, Boom, Bucket, Dipper Stick, Rocker Arms etc. U.T.S: 80 – 85 Kgf/Sq.mm, Elongation: 22 – 30%, Current ranges: 85 – 120 Amp. The build –up and over-lay should have excellent machinability.

Coal Tub Body and Frame

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Specification
Coal Tub Body and Frame	Coal Tubs body fitted with underframe and drawbar shall be manufactured conforming to IS : 4001 latest.
	The tubs shall conform to drawing enclosed.
	Steel used for fabrication of Coal Tub body and underframe shall conform to IS : 2062/1992 (latest)
	Drawbar shall conform to the requirement of DGMS circular no. 8 dtd 30.11.87 and amendments thereof with confirmation of S.W.L. of 5 Tonnes.
	COALTUB shall consist of following :
	1.M.S. Bottom Plate :- one no. with length - 6 feet, width- 3 feet & 3 inch ,thickness - 6 mm.
	2. Draw bar - one no. with length - 8 feet (6' + 2' Bend), width - 3 inch , thickness - 25 mm, Attachment : D-link - 2 nos ,J- Hook - 1 no [Rivets - 4 nos (size 5/8" X 3 1/2 ")]
	3.Under frame : one set
	a. Cross channel : Three(3) nos with length - 14 inch, width - 4 inch , thickness - 6 mm , Rivets : 01 X 3 = 3 Nos (5/8" X 2 1/2 ")
	b. Main supporting channel : Two (2) nos with length - 07 Feet, width - 5 inch , Height - 2.5 inch, thickness - 6 mm, Rivets : 06 X 2 = 12 Nos (5/8" X 2")
	c. Buffer Plate : Four (04) nos (02 nos in one main channel F&R) with length - 5 inch, width - 5 inch , thickness - 6 mm
	4. End Plate : Two (2) nos with length - 03 feet 3 inch, height - 2 feet 1 inch , thickness - 3.15 mm
	a. M.S. Flatter : 2 nos in one end plate X 02 = 04 nos with length - 03 feet 03 inch, width - 2 inch , thickness - 6 mm
	b. Rivets: size (3/8" X 1 1/4 " length), (i) five nos in one Flatter X 04 = 20 nos , (ii) Seven nos in lower horizontal angle (size attached with Bottom Plate X 02 = 14 nos. (iii) Four (4) nos in one verticle angle (size 2" X 2" attached with side plate x 04 = 16 nos . (02 nos between two flatters, 02 nos between middle flatter & lower horizontal angle)
	c. Rivets: size (3/8" X 1 1/2 " length) 02 nos in two corners of one flat of end plate x 04 = 08 nos .
	5. Side plate : Two nos with length - 6 feet, height - 2 feet , thickness - 1 inch
	a. M.S. flatter : 02 nos in one end plate x 02 = 04 nos

b. Rivets: size (3/8" X 1 1/4 " length), (i) ten nos in one Flatter X 04 = 40 nos , (ii) Twelve nos in lower horizontal angle (size 2" X 2" attached with Bottom Plate X 02 = 24 nos. (iii) Four (4) nos in one verticle angle (size 2" X 2" attached with side plate x 04 = 16 nos . (02 nos between two flatters, 02 nos between middle flatter & lower horizontal angle)
c. Rivets: size (3/8" X 1 1/2 " length) 02 nos in two corners of one flat of end plate x 04 = 08 nos .
6. M.S. Angle : (Size 2" X 2"), thickness - 6 mm
a. Length - 3 feet 3 inch , one angle (Horizontal) in one end plate attached with Bottom plate X 02 = 02 nos in both end plates. Rivets : Six(6) nos in one angle of end (size 3/8" X 1 1/4 " length) plate attached with Bottom plate X 02 = 02 nos
b. Length - 6 feet , one angle (Horizontal) in one end plate attached with Bottom plate X 02 = 02 nos in both side plates. Rivets : Twelve(12) nos (size 3/8" X 1 1/4 " length) in one angle of side plate attached with Bottom plate X 02 = 24 nos
c. Length - 2 Feet two angle (vertical) in one end plate
7. M.S.Plate Clit : Thickness - 6 mm
a Size : 2 inch x 2 inch :
1) Under frame cross channel - six(6) nos (3 nos lower in one cross channel = 18 nos in 03 channels)
2) Corner clit : three (3) nos in one vertical angle of end plate attached side plate X 04 nos angle.
b. Size : 2 inch x 4 inch (length)
1) Main supporting (under frame)channel : 02 nos in one channel as coal Tub block guard X 02 nos = 04 nos
Total Clit : (18 +12) + 04 = 30 + 4 = 34 nos
8. Accessories in one Coal Tub :
C.I. Block - Four(4) nos
M.S. Clamp(16 mm dia) lengtrh 12 inch - four(4) nos
M.S. Bolt with Nut (size 5/8" x 3" Full thread) - 02 nos in one block = eight(8) nos
M.S. Split Pin (size 3/16" x 2 1/2") 02 nos in one M.S.C. x 04 = eight(08) nos
M.S. Split Pin (size 5/32" x 1 1/2") 02 nos in one block x 04 = eight(08) nos
M.S. Washer 5/8" - 02 nos in one block x 08 = sixteen (16) nos
M.S. Rivets :
1) Size 5/8" x 3 1/2" length - 04 nos
2) Size 5/8" x 2 1/2" length - 03 nos
3) Size 5/8" x 2" length - 12 nos
4) Size 3/8" x 1 1/4" length - 166 nos (20+14+16+40+24+16+12+24)
5) Size 3/8" x 1 1/2" length - 16 nos (08+08)

Super Enamelled Copper Wire

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Specification	
Super Enamelled Copper Wire	ISI Marked polysterimide enamelled round copper winding wires class 180 grade II, with 99.9% purity electrolytic grade copper as per IS 13730(Part-8)1996 with latest amendments if any.	
	Size in SWG	Sizes in mm
	36	0.180
	35	0.200
	34	0.224
	33	0.250
	32	0.280
	30	0.315
	29	0.355
	27	0.400
	26	0.450
	25	0.500
	24	0.560
	23	0.630
	22	0.710
	21	0.800
	20	0.900
	19.5	0.950
	19	1.000
	18.5	1.120
	18	1.250
	17.5	1.320
	17	1.400
	16.5	1.500
	16	1.600
	15.5	1.700
	15	1.800
	14.5	1.900
	14	2.000

AC Armature Coil

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Details of Motor/Generator	Coil Specification
AC Armature Coil	AC Stator coil for all Draglines and 4.6,6.3,8,10,12.5 & 20 Cu. Mtr. Shovel	99.9% pure electrolytic copper, Class H Super enameled strip/round double layer glass covered. Overall covering of coils with fibre glass tape & glass separator on top and bottom of coils. Slot portion of coil taped with thermosetting tapes & moulded with Class H insulating resin.Overhang portion class F double fibre glass tape covering. Coil-ends should be annealed & tinned. Slot wedge of epoxy moulded glass cut/tapered to match slot groove for each set of coils to be supplied along with the coils in set.
	AC Stator coil for all Models of Drills, CHP, Water Pump and O & K,PC650E and other Hydraulic Shovels	99.9% pure electrolytic copper strip/round double layer glass covered & impregnated with class H insulating varnish. Overall covering of coils with fibre glass tape & glass separator on top and bottom of coils. Slot portion of coil taped with thermosetting tapes & moulded with Class H insulating resin. Overhang portion class F double fibre glass tape covering. Coil-ends should be annealed & tinned. Slot wedge of epoxy moulded glass cut/tapered to match slot groove for each set of coils to be supplied along with the coils in set.
	Armature coil for 24/96,20/90,15/90 & 10/70 Draglines	99.9% pure electrolytic copper, Class H Super enamelled with double layer glass covered Class H insulation grade. Double layer nomex covering (overlap taping)of coils. Fibre glass taping double layer on overhang portion. Slot portion of coil to be moulded with thermosetting tapes of Class H grade (silicon banded tape).Overhang portion class F double fibre glass tape covering. Coil-ends should be annealed & tinned. Coil joining clip made from pure electrolytic copper should also be supplied along with the coils in set.

	Armator coil for 4.6,6.3,8,10,12.5 & 20 Cu. Mtr. Shovel	99.9% pure electrolytic copper, Class H Super enamelled with double layer glass covered Class H insulation grade. Double layer nomex covering (overlap taping) of coils. Fibre glass taping double layer on overhang portion. Slot portion of coil to be moulded with thermosetting tapes of Class H grade(silicon banded tape).Coil-ends should be annealed & tinned. Coil joining clip made from pure electrolytic copper should also be supplied along with the coils in set. In case of Hoist Motor and Propel Motor slot portion to be moulded with thermosetting tape.
	Equaliser Coil for 10,12.5 & 20 Cu. Mtr. Shovels & Draglines	99.9% pure electrolytic copper, Class H Super enamelled Class H insulation. Double layer nomex covering (overlap taping)of coils. Fibre glass taping double layer on overhang portion. Coil-ends should be annealed & tinned.
	Main Pole Coil	99.9% pure electrolytic copper, Class H Super enamelled round/strip wire with double glass cover, nomex and fibre glass tape impregnated with Class H insulating varnish and finally with raisy rich covering.
	Inter Pole Coil	99.9% pure electrolytic copper strip covered with Kapton & Mica tape covering and final covering with fibre glass tape impregnated with Class H insulating varnish and final taping with raisy rich covering.

DC Armature Coil

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Details of Motor/Generator	Armature Coil Specification
DC Armature Coil	DC Crowd Motor, 54KW,395V,150Amps,Temp.-45	99.94% or above electrolytic grade Class-H enamelled copper strip conductor as per original size with Class-H varnished double glass covering as per IS 10114 insl. Class-H, No. of coil sets-35, No. of coils/condt.-4,insl. of cond-EDGC type of insl. in slot-mica & nomex taped type of insl in overhaung-glass mica & glass tape
	DC Crowd Generator, 42/45KW,375V,112/120Amps, Temp.-45	99.94% or above electrolytic grade Class-H enamelled copper strip conductor as per original size with Class-H varnished double glass covering as per IS 10114 insl. Class-H,No. of coil sets-41,No. of coils/condt.-4,insl. of cond-EDGC type of insl. in slot-mica & nomex taped type of insl in overhaung-glass mica & glass tape
	Hoist Generator, 102/200KW,401/460V,425/435 Amps,Temp.-45	99.94% or above electrolytic grade Class-H enamelled copper strip conductor as per original size with Class-H varnished double glass covering as per IS 10114 insl. Class-H,No. of coil sets-52X2,No. of coils/condt.-3,insl. of cond-EDGC type of insl. in slot-mica & nomex taped type of insl in overhaung-glass mica & glass tape
	Excitor Generator, 15KW,115V,104.5/130 Amps,Temp.-45	99.94% or above electrolytic grade Class-H enamelled copper strip conductor as per original size with Class-H varnished double glass covering as per IS 10114 insl. Class-H,No. of coil sets-39,No. of coils/condt.-3,insl. of cond-EDGC type of insl. in slot-mica & nomex taped type of insl in overhaung-glass mica & glass tape
	DC Crowd Motor, 54KW,395V,150 Amps,Temp.-45	99.94% or above electrolytic grade Class-H enamelled copper strip conductor as per original size with Class-H varnished double glass covering as per IS 10114 insl. Class-H,No. of coil sets-43,No. of coils/condt.-3,insl. of cond-EDGC type of insl. in slot-nomex covered type of insl in overhaung-glass mica & glass tape

	DC Swing Motor, 60KW,305V,320 Amps,Temp.-45	99.94% or above electrolytic grade Class-H enamelled copper strip conductor as per original size with Class-H varnished double glass covering as per IS 10114 insl. Class-H,No. of coil sets-46,No. of coils/condt.-4,insl. of cond-EDGC type of insl. in slot-nomex covered type of insl in overhaung-glass mica & glass tape
	DC Hoist Motor, 200KW,460/440V,110/190 Amps,Temp.-45	99.94% or above electrolytic grade Class-H enamelled copper strip conductor as per original size with Class-H varnished double glass covering as per IS 10114 insl. Class-H,No. of coil sets-60,No. of coils/condt.-3,insl. of cond-EDGC type of insl. in slot-nomex covered type of insl in overhaung-glass mica & glass tape
	DC Crowd Generator, 50KW,375V,112/120Amps, Temp.-45	99.94% or above electrolytic grade Class-H enamelled copper strip conductor as per original size with Class-H varnished double glass covering as per IS 10114 insl. Class-H,No. of coil sets-37,No. of coils/condt.-5,insl. of cond-EDGC type of insl. in slot-nomex covered type of insl in overhaung-glass mica & glass tape
	DC Swing Generator, 132KW,510V,197/217 Amps, Temp.-45	99.94% or above electrolytic grade Class-H enamelled copper strip conductor as per original size with Class-H varnished double glass covering as per IS 10114 insl. Class-H,No. of coil sets-37,No. of coils/condt.-5,insl. of cond-EDGC type of insl. in slot-nomex covered type of insl in overhaung-glass mica & glass tape
	DC Hoist Generator, 200KW,451/460V,425/435 Amps,Temp.-45	99.94% or above electrolytic grade Class-H enamelled copper strip conductor as per original size with Class-H varnished double glass covering as per IS 10114 insl. Class-H,No. of coil sets-50,No. of coils/condt.-3,insl. of cond-EDGC type of insl. in slot-mica & nomex taped type of insl in overhaung-glass mica & glass tape
	DC Excitor Generator, 15KW,115V,130 Amps,Temp.-45	99.94% or above electrolytic grade Class-H enamelled copper strip conductor as per original size with Class-H varnished double glass covering as per IS 10114 insl. Class-H,No. of coil sets-37,No. of coils/condt.-3,insl. of cond-EDGC type of insl. in slot-nomex covered type of insl in overhaung-glass mica & glass tape

Carbon Brush

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Details of Motor/Generator	Size of Carbon Brush	Equipment Details
Carbon Brush	Hoist Motor 200KW, 440V, 750 rpm,490 Amps	25X50X60 mm Grade:E88(I)	EKG 4.6/5A Shovel
	Crowd Generator 50KW, 375V,1480rpm, 133 Amps	20X32X40 mm	EKG 4.6/5A Shovel
	Swing/Crowd Generator 132KW,610V/ 50KW,375V,1480 rpm,217/133Amps	20X32X40 mm Grade:E46(I)	EKG 4.6/5A Shovel
	Excitor 0.5KW,115V,1480rpm,130Amps	(2X8)X25X32 mm/16X25X32 mm Grade:E46(I)	EKG 4.6/5A Shovel
	Swing/Crowd Motor 60KW,305V,1230rpm,220Amps	16X32X40 mm Grade:E88(I)	EKG 4.6/5A Shovel
	Crowd/Propel Motor 54KW,395V,1200 rpm,150Amps	16X32X40 mm Grade:E88(I)	EKG 4.6/5A Shovel
	Hoist Generator 192KW,425V,1480rpm,425Amps	25X32X40 mm Grade:E46(I)	EKG 4.6/5A Shovel
	D.C Generator Hoist/Drag/Swing Type-2500-750 T3,2500KW,1200V,2080 Amps,750 rpm	2X(2.5X32X40) mm	20/90 Dragline
	Synchronous Motor Type-CD 2-17-69-8 T2,2250KW,6.6KV,215 Amps,750 rpm	25X32X65 mm	20/90 Dragline

	D.C Motor Hoist/Drag/Swing Type-2500-750 T3,2500KW,1200V,2080 Amps,750 rpm	2X(12.5X32X65) mm	20/90 Dragline
	Excitor	16X25X32 mm	4/45 Dragline
	Hoist/Drag Generator Type-900/1000T,900KW,900V,1000 rpm,1000 Amps, Type-D C R 0990-0223-05	25X32X32 mm	10/60 Dragline
	Hoist/Drag Motor Russian Type-375/900T,375KW,440V,905 rpm,900 Amps	20X32X32 mm	10/60 Dragline
	BHEL Type-DCR 0493-040-08,450KW,440V,900/1200 rpm,1090 Amps	20X32X32 mm	10/60 Dragline
	Drag/Hoist/Swing Generator Type-2 85/46/36-6KT-2,900KW,900V,1000 rpm	2(12.5)X32X40 mm/25X32X40 mm	10/70 Dragline
	Excitor 27KW,115V,1500 rpm	(2X8)X25X32 mm	10/70 Dragline
	Excitor House Generator 27KW,115V,1500 rpm	12.5X25X32 mm	10/70 Dragline
	Synchronous Motor 1250KW,6000V,1000 rpm	25X32X64 mm	10/70 Dragline
	Drag/Hoist/Swing/Walking Motors	2(12.5)X32X64 mm	10/70 Dragline

Stone Dust Barrier

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Specification
Stone Dust Barrier	Wooden planks (non sal) for stone dust barrier consists of 2 nos planks without joint fixed by wooden distance piece at 0.5m interval.
	Length of each plank-4m
	Height of plank-15cm
	Thickness of plank-25mm
	Distance between two planks-20cm
	Size of distance piece:-width-20cm,Height-15cm,Thickness-25mm

Wooden Ballah

SPECIFICATION OF ANCILLARISED ITEM	
Item Description	**Specification**
Wooden Ballah	Sal Pole 6" X 10'
	Sal Pole 6" X 12'
	Sal Pole 6" X 14'
	Sal cogging sleeper 4' X 4" X 4"
	Sal cogging sleeper 5' X 5" X 5"

Lime Stone Dust

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Specification
Lime Stone Dust	Fine, incombustible, readily dispersible to the air and light in colour. Lime stone dust not containing more than 5% free silica.
	Marking:-The lime stone dust packages shall bear the name of manufacturer, date of manufacture and the net weight.

RCC Hume Pipes

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Specification for Pipe of 600mm	Specification for Pipe of 900mm	Specification for Pipe of 1200mm
RCC Hume Pipes	RCC Hume Pipe of Size: 600 mm, Standard Length 2.5M, Class NP3 , as per IS 458/1988 with latest amendment	RCC Hume Pipe of Size: 900 mm, Standard Length 2.5M, Class NP3 , as per IS 458/1988 with latest amendment	RCC Hume Pipe of Size:1200 mm, Standard Length 2.5M, Class NP3 , as per IS 458/1988 with latest amendment

Cement Capsule

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Specification For Size 35mm Dia X 500mm Length	Specification For Size 25mm Dia X 400mm Length
CEMENT CAPSULE	Cement Capsule shall comply with standards stipulated vide para 2 of the DGMS Circular No. DGMS/Tech. Cir. (Approval) No.05 Dhanbad, dated 27-12-2010 and latest amendment made by DGMS, if any from time to time	Cement Capsule shall comply with standards stipulated vide para 2 of the DGMS Circular No. DGMS/Tech. Cir. (Approval) No.05 Dhanbad, dated 27-12-2010 and latest amendment made by DGMS, if any from time to time
	Physical Conditions: a.) Size 35 mm dia x 500 mm length	Physical Conditions: a.) Size 25 mm dia x 400 mm length
	Physico - Mechanical Properties	**Physico - Mechanical Properties**
	i.) Soaking time: Maximum of 3 minutes	i.) Soaking time: Maximum of 3 minutes
	ii.) Initial Setting time including Soaking time: Minimum - 5 minutes. Maximum - 10 minutes.	ii.) Initial Setting time including Soaking time: Minimum - 5 minutes. Maximum - 10 minutes.
	iii.) Final Setting time including Soaking and Initial Setting time: Maximum of 15 minutes	iii.) Final Setting time including Soaking and Initial Setting time: Maximum of 15 minutes
	iv.) Compressive Strength Gain Minimum after - a.) 30 Minutes > 3.0 Mpa. b.) 2 hours > 7.0 Mpa. c.) 24 hours > 12.0 Mpa. d.) 7 days > 12.0 Mpa.	iv.) Compressive Strength Gain Minimum after - a.) 30 Minutes > 3.0 Mpa. b.) 2 hours > 7.0 Mpa. c.) 24 hours > 12.0 Mpa. d.) 7 days > 12.0 Mpa.
	v.) Anchorage Strength minimum - a.) After 30 Minutes -3.0 Tonnes. b.) After 2 hours - 5.0 Tonnes. c.) After 24 hours - 10.0 Tonnes. d.) After 28 days - 12.0 Tonnes.	v.) Anchorage Strength minimum - a.) After 30 Minutes -3.0 Tonnes. b.) After 2 hours - 5.0 Tonnes. c.) After 24 hours - 10.0 Tonnes. d.) After 28 days - 12.0 Tonnes.
	Chemical properties of Cement Capsules:	**Chemical properties of Cement Capsules:**
	i.) Chloride: Maximum of 0.1%	i.) Chloride: Maximum of 0.1%

	ii.) Shrinkage: No Shrinkage	ii.) Shrinkage: No Shrinkage
	iii.) Expansion: If measured by 'Autoclave method' - Maximum of 0.8 % OR If measured by 'LeChattlier's method' - Maximum of 10 mm	iii.) Expansion: If measured by 'Autoclave method' - Maximum of 0.8 % OR If measured by 'LeChattlier's method' - Maximum of 10 mm
	iv.) Sulphuric Anhydrite: Maximum of 15%	iv.) Sulphuric Anhydrite: Maximum of 15%

Steel Square Cog

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Specification
Steel Square Cog	**Physical Properties:** Materials: Manufacturer shall specify the steel grades and characteristics from which the steel support has been made/manufactured. (a) The tensile strength of the steel grade used shall be at least 1.08 times the measured yield stress. (b) Elongation prior to fracture A of the steel grade used shall not be less than 10%. (c) The manufacturer of the support shall specify the design, calculations, Yield Strength and Ultimate Tensile Strength along with elongation at Yield and the factor of safety of the supports. The Steel support shall be as per the drawing and dimensions given by the manufacturer
	Dimension: Dimension of the support shall be as per the design and the tolerances specified in the IS: 1852 – 1985 or any other Standard as applicable.
	Chemical Composition: Chemical composition of the steel for manufacturing of the steel supports varies according to the requirement of strength characteristics and specific applications given by user. However certain chemical constituents of the steel which influence the required properties of steel are prescribed below(Constituent Percentage by weight): 1 Carbon (c) 0.25 (Max) 2 Sulphur (S) 0.05 (Max) 3 Phosphorous(P) 0.05 (Max) 4 Manganese 1.7 (Max) 5 Other Alloying/micro alloying elements 0.50 (Max) In this regard, reference may be made of IS 2062: 2006 for considerations and testing.

Roof Bolts & Bearing Plates

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Specification
Roof Bolts	**Physical Properties:** (a) Shape & Size: The Roof bolt shall be of MS Steel or TMT Rebar having circular cross-section with ribs on circumferential region. The manufacturer of the roof bolt shall specify the design, calculations, Yield Strength and Ultimate Tensile Strength along with elongation at Yield and the factor of safety of the roof bolt manufactured by them. The Roof bolt shall be as per the drawing and dimensions given by the manufacturer.
	(b) Length: Length of the Roof Bolt shall not be more the designed length + 5mm.
	(c) Diameter: Diameter of the Roof Bolt shall not be more than the designed diameter + 4% by mass as specified under IS 1786 – 2008 or as per the standard given in BS 7861 (Part-1) 2008.
	(d) Straightness: The roof Bolt shall be straight without any joint, welding, deviation or deflection. However if the deflection or deviation cannot avoided due to practical reasons, it shall not be more than + 0.1 % per meter length of the bolt.
	(e) Rib: The Rib of the Roof Bolt shall be as per the design of the rib with an objective to maximize the surface area without reducing the core diameter of the roof bolt and having maximum grip with the grout. However the height of the rib shall be kept within the standard prescribed in IS 1786 – 2008 or BS 7861 (Part 1) 1996 or latest revision thereof.
	Physico-mechanical Properties: Steel for the Roof Bolt: The roof bolt shall be of thermo-mechanically treated (TMT) rebar manufactured from MS Grade Fe-500, Fe-600 or above. The Yield Stress, Tensile Strength and % elongation steel Grade shall be maintained as per the IS 1786 and IS 13920.However the minimum load bearing capacity (Anchorage Load) of the roof bolt shall be 160 kN.

	Chemical Composition: Chemical composition of the steel for manufacturing of the roof bolts varies according to the requirement of strength characteristics and specific applications given by the roof bolt manufacturer and the end user. However certain chemical constituents of the steel which influence the required properties of steel are prescribed below(Percentage by weight): 1 Carbon © 0.25 (Max) 2 Sulphur (S) 0.05 (Max) 3 Phosphorous(P) 0.05 (Max) 4 Manganese 1.5 (Max) 5 Other Alloying/micro alloying elements 0.50 (Max) In this regard, reference may be made of IS 1786: 2008 for considerations and testing.
	Thread on the Roof Bolt: (a) The thread on the roof bolt shall be M20 cold rolled thread conforming to IS 4218 (part- 2 & 3) and no cut thread shall be used. The minimum length of the thread shall be 150 + 5mm and the tolerance class designation of 8g. The thread shall conform to tolerance class of 7H. As a routine test, one thread in every 50 produced shall be checked using a go/no-go gauge.
	(b) Non-threaded end The non threaded end of the rock bolt shall be formed by cropping or sawing and shall be free from burrs and edges which protrude beyond the profile of the rock bolt. As a routine, one rock bolt in every 200 produced shall be checked for straightness.
	(c) The Nut shall be of hexagonal shape of thickness not less than 30mm conforming to IS 1363 (Part-3) and the thread shall conform to tolerance class of 7H.
	(d) Pull Test: Thread and the Nut on the roof bolt shall be subjected to pull test which should not slip at the yield strength/load of the roof bolt.
Item Description	**Specification**
Bearing Plates	(a) The Bearing Plate of the roof bolt shall be Dome Washer Plate of dimension 150 x 150 x 8 (minimum) mm with compatible central hole of required size and angled side to accommodate the conical seat and nut.
	(b) The minimum load at which the Domed Washer Plate will become flat should be at least 14 Tonnes.

Special Steel and Alloy Casting

SPECIFICATION OF ANCILLARISED ITEM

	Item Description	Specification	Item Desription	Specification
Special Steel and Alloy Casting	Track pads for EKG 5A/4.6b Shovel	Pt No. 1003-21-01-01	Tooth Lock for H-40 Excavator	Pt no-00149170
	PIN EKG 4.6 SHOVEL	104021002	Tooth points for CK-300 Excavator	Pt no-P00104274/R00104274
	RIVET FOR EKG 4.6 SHOVEL	104021003	Tooth points for CK-300 Excavator	Pt no-K20204083
	Tooth points for EKG 5A and 10/70/10/60 Drag Line	Pt No. 1041-01-1003-01/1006-01-08	Lock Pin for CK-300 Excavator	Pt no-P20127382/P20127387
	LOCK BOLT WITH NUT FOR EKG 4.6 SHOVEL	1041030101	Lock Washer for CK-300 Excavator	Pt no-B20134730
	Tooth points for 20/90 Drag Line	Pt No. 1060-61-403	Tooth points for HM 20-21Z pay loader	Pt no-81019881/81003499/81002799
	Tooth points Bolt for 20/90 Drag Line	Pt No. 106061402	Tooth points for WA-200	Pt no-20X7014160
	Tooth points for P/H Shovel	Pt-3412N10,12Z538 & 19Z253(3 Items)	Tooth points for TWL-3036 Wheel Loder	Pt no-WD0011
	Tooth points ADOPTER for P/H Shovel	Pt no.-12Z534	Tooth(LH) for TWL-3036 Wheel Loder	Pt no-WD0010
	Tooth points C-CLAMP for P/H Shovel	Pt no.-12Z536	Tooth(RH) for TWL-3036 Wheel Loder	Pt no-WD0012
	Tooth points WEDGE for P/H Shovel	Pt no.-12Z537	Tooth points Bolts for TWL-3036 Wheel Loder	Pt no-11064024665
	Tooth points for BE-1600 Excavator	181FS31124	Tooth points Nut for TWL-3036 Wheel Loder	Pt no-12052202408
	Pin Assy. for BE-1600 Excavator	181FS02126	Tooth points washer for TWL-3036	Pt no-A590924
	Tooth points for BE-1000 Excavator	Pt no-175FS33048	Tooth points for BEML-656 Wheel Loader	Pt no-Z0105511123
	Pin Assy. for BE-1000 Excavator	Pt no-175FS02105/21N7214331	Tooth(RH) for BEML-656 Wheel Loader	Pt no-W6560503523
	Tooth points for BE-1000 Excavator	175FS33007	Tooth(LH) for BEML-656 Wheel Loader	Pt no-W6560503524

	Tooth points for Tata Hitachi 1200V	TB00223	Tooth points Nut for BEML-656 Wheel Loader	Pt no-B0300120010
	Key for Tata Hitachi 1200V	TB00722	Tooth points Bolt for BEML-656 Wheel Loader	Pt no.-WB010020080
	Tooth points for Tata Hitachi LCH-300	Pt no-TB00705/TB00607	TOOTH POINT FOR BE300 HYD SHOVEL	PT NO160BH31646
	Lock pin for Tata Hitachi LCH-300	Pt no-TE03583/TE04412	LOCK FOR BE300 HYD SHOVEL	PT NOCFP1502516
	Washer for Tata Hitachi LCH-300	Pt no-TE03583	Tooth point TIP for 2071 Pay loader	Part no.-8102-1677
	Tooth Adoptor for Tata Hitachi LCH-300	Pt no-TB00704	Tooth point PIN for 2071 Pay loader	Part no.-8102-1728
	Tooth Adoptor(L) for Tata Hitachi LCH-300	Pt no-TE4471	Tooth point Retainer for 2071 Pay loader	Part no.-8101-9882
	Tooth Adoptor(R) for Tata Hitachi LCH-300	Pt no-TE04470	Tooth point Retainer Holder for 2071 Pay loader	Part no-8101-9884
	Tooth points for H-40 Excavator	Pt no-18025540		

Bleaching Powder, Synthetic Enamel and Varnishing

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Specification
Bleaching Powder	Bleaching powder Grade-I confirming to IS-1065.
	Minimum Chlorine conent-34%
	Stability-1/15
	Moisture content-0.30
	Particle size passing through 1.71mm IS sieve minimum 99.50.
Item Description	**Specification**
Synthetic Enamel	Synthetic enamel paint conforming to IS 2932
Varnishing	Varnishing conforming to IS 347

Printing Jobs

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Types Of Printing	Item Name	Specification
Printing Jobs	Screen Printing	Pad	Printed Pad Hindi and English 1/2 FsX100 Sh
	Offset Printing	Register	1/2 FsX250 Sh. Ledger Paper 80 GSM with numbering.
	Treddler Printing	Logs Books for Vehicles	1/6th size 104 Sheets
	Multicolour Printing	Logs Books for Vehicles	1/6thX36 Sh
	DTP Printing	SRV Voucher	Each Pad 6(six) different colour paper each pad 16 sets.16X6=96 sheets with numbering.
	Laser Printing	Peon Book	HB Binding.1/6th sizeX100Sh
	Binding & Lamination	Leave Application	Format 1/2 FsX100 Sh.Yellow colour Paper
	Photo-copying	Attendance Register	Ledger Paper 1/2 FsX25 Sh as per specimen.
	Spiral Binding	Letter Head Pad	Excel bond paper A4 size X100Sh.Print in three colour APS.
		Note-sheet Pad	90 GSM 1/2 Fs size Ledge Paper 100Sh.
		P.O.L Issue Slip	Each Book 1st copy perforated with numbering (1X2x50)=1/8th size 100 Sh with numbering.
		Gate Pass Book	1/8x100 with numbering
		Medical Service Book	1/10 size (12x18cm.) x40 Pages with laminated cover page printed with different colours.
		Vigilance Bulletin	Each Book 100 Pages A4 size with 7 to 10 colour page as per sample.

OTR Tyres Retreading & Resoling (Hot & Cold)

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Specification
OTR Tyres Retreading & Resoling(Hot & Cold)	OTR Tyre 18.00 x 25 – 32 PR TL E4 with "O" ring (Water Sprinkler/35T Dumper)
	OTR Tyre 18.00 x 25 – 12/16 PR TL L3 with "O" ring (Grader)
	OTR Tyre 14.00 x 25 – 20 PR TT with tube & Flaps (Pay loader)
	OTR Tyre 24.00 x 35 – 42/48 PR TL E4 with "O" ring (60T Dumper)
	OTR Tyre 21.00X35 -36 PR (50T Dumper)
	OTR Tyre 24.00X49 - 48 PR (85T Dumper)
	OTR Tyre 27.00X49 - 48 PR (100T Dumper)
	OTR Tyre 29.5X29 - 28 PR (Pay Loader)
	OTR Tyre 35/65X33 - 24 PR (Wheel Dozer)

Computer Stationary

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Specification
Computer Stationary	The computer Paper should be EZR 10X12X2, 60 GSM with MCL logo.
	The computer Paper should be EZR 10X12X3, 60 GSM with MCL logo.
	The computer Paper should be EZR 10X12X1, 60 GSM with MCL logo.
	The computer Paper should be Plain 10X12X1.
	The computer Paper should be Plain 10X12X2.
	The computer Paper should be Plain 10X12X3.
	The computer Paper should be EZR 15X12X1.
	The computer Paper should be EZR 15X12X2.
	The computer Paper should be EZR 15X12X3.

M.S Pipe Flanges

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Specification of 10"/250mm Dia	Specification of 8"/200mm Dia	Specification of 6"/150mm Dia
M.S Pipe Flanges	MS Flange 10”/ 250mm dia	MS Flange 8”/ 200mm dia	MS Flange 6”/ 150mm dia
	A. OD 405 mm, ID 275 mm, thickness : 16 mm	A. OD 335 mm, ID 220 mm, thickness : 16 mm	A. OD 279 mm, ID 168 mm, thickness : 12 mm
	B. Hole Center Dia: 355 mm.	B. Hole Center Dia: 292 mm.	B. Hole Center Dia: 235 mm.
	C. No of Holes: 8 Nos.---	C. No of Holes: 8 Nos.	C. No of Holes: 8 Nos.
	D. Hole Dia: 13”/16 or 20.75mm = 22mm	D. Hole Dia: 11”/16 or 17.46mm = 18mm	D. Hole Dia: 16mm.
	E. Conforms to Table D and BS10 (one faced)	E. Conforms to Table D and BS10 (one faced).	E. Conforms to Table D and BS10 (one faced).

Steel Tubular Poles

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Specification of 12Mtrs Length	Specification of 10Mtrs Length	Specification of 16Mtrs Length
Steel Tubular Poles	Swaged type steel Tubular Pole of 12 Mtrs Length Designated as 410,SP-66	Swaged type steel Tubular Pole 10 Mtrs length Designated as 410,SP-48	Swaged type steel Tubular Pole of 16 Mtrs Length Designated as 410,SP-77
	Swaged Tubular Poles shall be made of welded tubes of suitable length as per IS and joined together. No circumferential joints shall be permitted in the individual tube lengths of the pole.	Swaged Tubular Poles shall be made of welded tubes of suitable length as per IS and joined together. No circumferential joints shall be permitted in the individual tube lengths of the pole.	Swaged Tubular Poles shall be made of welded tubes of suitable length as per IS and joined together. No circumferential joints shall be permitted in the individual tube lengths of the pole.
	There shall be only one longitudinal seam and longitudinal welds shall be staggered at each swaged joints.	There shall be only one longitudinal seam and longitudinal welds shall be staggered at each swaged joints.	There shall be only one longitudinal seam and longitudinal welds shall be staggered at each swaged joints.
	The pole shall be straight, smooth, cylindrical and well finished.	The pole shall be straight, smooth, cylindrical and well finished.	The pole shall be straight, smooth, cylindrical and well finished.
	The chemical composition of material of the pole shall comply with the requirement of IS 228 (Part III - IX).	The chemical composition of material of the pole shall comply with the requirement of IS 228 (Part III - IX).	The chemical composition of material of the pole shall comply with the requirement of IS 228 (Part III - IX).
	Swaged Type Tubular pole shall be of welded tube length of pole shall be as per the scope of supply.	Swaged Type Tubular pole shall be of welded tube length of pole shall be as per the scope of supply.	Swaged Type Tubular pole shall be of welded tube length of pole shall be as per the scope of supply.
	The pole shall be manufactured strictly as per IS 2713 (Part I & II).	The pole shall be manufactured strictly as per IS 2713 (Part I & II).	The pole shall be manufactured strictly as per IS 2713 (Part I & II).

	The pole must conform all the relevant parameters as covered in IS 2713. The tolerance for outside diameter, thickness, length and weight shall be strictly as per the specific technical parameters of IS 2713 (Part I & II).	The pole must conform all the relevant parameters as covered in IS 2713. The tolerance for outside diameter, thickness, length and weight shall be strictly as per the specific technical parameters of IS 2713 (Part I & II).	The pole must conform all the relevant parameters as covered in IS 2713. The tolerance for outside diameter, thickness, length and weight shall be strictly as per the specific technical parameters of IS 2713 (Part I & II).
	Earthing: Each pole shall have through a hole of 14 mm dia to be provided in each pole at a height of 380 mm above the planting depth.	**Earthing:** Each pole shall have through a hole of 14 mm dia to be provided in each pole at a height of 380 mm above the planting depth.	**Earthing:** Each pole shall have through a hole of 14 mm dia to be provided in each pole at a height of 380 mm above the planting depth.
	A suitable finals and taper plug shall be provided in each pole as per IS 2713.	A suitable finals and taper plug shall be provided in each pole as per IS 2713.	A suitable finals and taper plug shall be provided in each pole as per IS 2713.
	The base plate shall be of MS only with size of 300 mm X 300 mm X10 mm.	The base plate shall be of MS only with size of 300 mm X 300 mm X10 mm.	The base plate shall be of MS only with size of 300 mm X 300 mm X10 mm.
	The pole shall be coated with black bitumen paints conforming to relevant IS through out internally & externally up to the level which goes inside the Earth. The remaining portion shall be painted with red oxide primer as per IS 2074.	The pole shall be coated with black bitumen paints conforming to relevant IS through out internally & externally up to the level which goes inside the Earth. The remaining portion shall be painted with red oxide primer as per IS 2074.	The pole shall be coated with black bitumen paints conforming to relevant IS through out internally & externally up to the level which goes inside the Earth. The remaining portion shall be painted with red oxide primer as per IS 2074.
	Each pole shall be marked with length, designation, manufacturer identification and year of manufacturer.	Each pole shall be marked with length, designation, manufacturer identification and year of manufacturer.	Each pole shall be marked with length, designation, manufacturer identification and year of manufacturer.
	The firm must submit the Manufacturer's test certificate for the test covered in IS:2713 at the time of supply of poles.	The firm must submit the Manufacturer's test certificate for the test covered in IS: 2713 at the time of supply of poles.	The firm must submit the Manufacturer's test certificate for the test covered in IS: 2713 at the time of supply of poles.

Aluminium Alloy Standard Conductor (AAAC)

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Specification of 22 Sq. MM Dia.	Specification of 55 Sq. MM Dia.	Specification of 125 Sq. MM Dia.
Aluminium Alloy Standard Conductor (AAAC)	Aluminium-Magnesium-Silicon type having construction, material specification, testing and all other technical requirement shall be as per the BIS:398 Pt-IV as amended up to date and ISI Mark for the conductor size-22 sq mm dia	Aluminium-Magnesium-Silicon type having construction, material specification, testing and all other technical requirement shall be as per the BIS:398 Pt-IV as amended up to date and ISI Mark for the conductor size-55 sq mm dia	Aluminium-Magnesium-Silicon type having construction, material specification, testing and all other technical requirement shall be as per the BIS:398 Pt-IV as amended up to date and ISI Mark for the conductor size-125 sq mm dia
	1. Stranding and Wire (Al.Alloy dia) : 7/2.00 mm	1. Stranding and Wire (Al.Alloy dia) : 7/3.15 mm	1. Stranding and Wire (Al.Alloy dia) : 19/2.89 mm
	2. Number of Strands : 7	2. Number of Strands : 7	2. Number of Strands : 1+6+12
	3. Total Sectional Area : 22 sq mm	3. Total Sectional Area : 54.55 Sq mm	3. Total Sectional Area : 124.64 sq mm
	4. Overall Diameter : 6.00	4. Overall Diameter : 9.45mm	4. Overall Diameter : 14.45 mm
	5. Approximate Mass (Kg/Km) :	5. Approximate Mass (Kg/Km) :	5. Approximate Mass (Kg/Km) :
	a) Standard : 60.1	a) Standard : 149.2	a) Standard : 342.51
	b) Minimum : 58.3	b) Minimum : 146.5	b) Minimum : 335.5
	c) Maximum : 61.9	c) Maximum : 152.2	c) Maximum : 349.7
	6. Calculated DC Resistance at 20 deg C maximum (Ohm/Km) : 1.5410	6. Calculated DC Resistance at 20 deg C maximum (Ohm/Km) : 0.6210	6. Calculated DC Resistance at 20 deg C maximum (Ohm/Km) : 0.2735
	7. Approx. Calculated Breaking Load (KN) : 6.45	7. Approx. Calculated Breaking Load (KN) : 16.03	7. Approx. Calculated Breaking Load (KN) : 36.64
	8. Direction of Lay : Right Hand	8. Direction of Lay : Right Hand	8. Direction of Lay : Right Hand

	9. Modulus of Elasticity (Kg/sqcm) : 0.6324 X 10^6	9. Modulus of Elasticity (Kg/sqcm) : 0.6324 X 10^6	9. Modulus of Elasticity (Kg/sqcm) : 0.612 X 10^6
	10. Coefficient of Linear Expansion per deg C : 23.0 X 10^{-6}	10. Coefficient of Linear Expansion per deg C : 23.0 X 10^{-6}	10. Coefficient of Linear Expansion per deg C : 23.0 X 10^{-6}
	11. Details of Aluminium Alloy Strand :	11. Details of Aluminium Alloy Strand :	11. Details of Aluminium Alloy Strand :
	a. Diameter :	a. Diameter (mm) :	a. Diameter (mm) :
	(I) Standard : 2.00	(I) Standard : 3.15	(I) Standard : 2.89
	(II) Minimum : 1.97	(II) Minimum : 3.12	(II) Minimum : 2.86
	(III) Maximum : 2.03	(III) Maximum : 3.18	(III) Maximum : 2.92
	b. Min. Breaking Load of Strand before Stranding : 0.97 KN	b. Min. Breaking Load of Strand before Stranding : 2.41 KN	b. Min. Breaking Load of Strand before Stranding : 2.03 KN
	c. Min. Breaking Load of Strand after Stranding : 0.92 KN	c. Min. Breaking Load of Strand after Stranding : 2.29 KN	c. Min. Breaking Load of Strand after Stranding : 1.93 KN
	d. Max. DC Resistance of Strand at 20 deg C (Ohm/ Km) : 10.653	d. Max. DC Resistance of Strand at 20 deg C (Ohm/ Km) : 4.290	d. Max. DC Resistance of Strand at 20 deg C (Ohm/ Km) : 5.106
	e. Weight (Kg/ Km) : 8.482	e. Weight (Kg/ Km) : 21.04	e. Weight (Kg/ Km) : 17.71
	12. Standard Length (Mtr): 5000 (+/- 5%)	12. Standard Length (Mtr): 2000 (+/- 5%)	12. Standard Length (Mtr): 2500 (+/- 5%)
	13. Standard according to which the conductor should be manufactured and tested : IS : 398 pt-IV - 1994	13. Standard according to which the conductor should be manufactured and tested : IS : 398 pt-IV - 1994	13. Standard according to which the conductor should be manufactured and tested : IS : 398 pt-IV - 1994
	14. Other Particulars : An ISO 9001 - 2000 Company	14. Other Particulars : An ISO 9001 - 2000 Company	14. Other Particulars : An ISO 9001 - 2000 Company
		15.Elongation(in %)-Min (4.0)	

Lead Acid storage Battery

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Specification
Lead Acid storage Battery	The lead acid Battery in dry uncharged condition shall conform to the latest version of IS: 7372 - 1995. The battery should be in hard rubber container (conforming to IS: 1146 - 1981) consisting of pasted positive and negative plates, micro porous separators, lids, vent plug etc provided with handles for handling.
	The capacity (20 Hr) rate of discharge of batteries at 27 deg C shall be as detailed below :
	a) 12 V , 27 Plates : 200 AH
	b) 12 V , 25 Plates : 180 AH
	c) 12 V , 21 Plates : 150 AH
	d) 12 V , 19 Plates : 135 AH
	e) 12 V , 17 Plates : 120 AH
	f) 12 V , 15 Plates : 95 AH
	g) 12 V , 13 Plates : 88 AH
	h) 12 V , 11 Plates : 75 AH
	i) 12 V , 9 Plates : 60 AH
	The storage life of batteries shall be guaranteed for a period of 18 months from the date of supply.
	Each battery should be prominently embossed with manufacturer's Logo, Si no. , part no. if any, year and month of manufacture at a non wearable place so as to enable proper identification during entire period of use and after use of material.

Mine Car

SPECIFICATION OF ANCILLARISED ITEM

Item Description	Specification	Required Value
Mine Car	**Capacity- 115 Cubic Feet**	
	Technical parameters:	
	Side Plate thickness	5mm.
	Bottom Plate thickness	8mm.
	Length of Mine Car Body	2745mm.
	Width of Mine Car Body	1530mm.
	Depth of Mine Car Body	835
	Size of Draw Bar	25 *125(mm*mm)
	Centre hole on Draw Bar	40mm.
	No. of Rivets for Chassis	24 nos.
	Size. of Rivets for Chassis	22mm.
	No. of Rivets for Buffers	8 nos.
	Size of Rivets for Buffers	22mm.
	Other parameters:(1) All side (vertical) Flats are solidly welded for strength.**(2)** All side Top ribs are solidly welded for strength.**(3)**As per standard practice only rivets shall be used in Mine Car. **(4)** For easy replacement of Buffer, 3/4" bolts with Castle nuts may be provided in place of Rivets.**(5)** All details of wheel & axle shall be mentioned on the body of the drawing and measurements shall be given in mm.(6) **The material of buffer assembly ie. Buffer, Buffer Hooks with Links, Hook pin, Draw Bar with nut & split pin etc. shall be as per DGMS circular.**	

Idlers

Idlers (Top 1400 mm belt & Bottom 1400 mm belt)		
Item Description	**Specification Of Top 1400 mm belt**	**Specification Of Bottom 1400 mm belt**
Idlers	Idlers of following size manufactured strictly as per latest version of IS:8598-1987: (1) Top Idler for 1400 mm belt	Idlers of following size manufactured strictly as per latest version of IS:8598 -1987: (1) Bottom Idler for 1400 mm belt
	Dimension of Idler :	Dimension of Idler :
	Wall thickness of Tube shell t1 : 5.4 mm	Wall thickness of Tube shell t1 : 5.4 mm
	Tube shell length L1 : 523 mm	Tube shell length L1 : 1593 mm
	Tube shell diameter d1 : 152.4 mm	Tube shell diameter d1 : 152.4 mm
	Shaft Length of idlers L2 : 575 mm	Shaft Length of idlers L2 : 1645 mm
	Shaft diameter at bearing seat d3 : 30 mm	Shaft diameter at bearing seat d3 : 35 mm
	Overall shaft diameter of idlers d2 : 35 mm	Overall shaft diameter of idlers d2 : 40 mm
	Bearing No. & equivalent: 420206	Bearing No. & equivalent: 6207
	Dimension b-1: 22 mm	Dimension b-1: 22 mm
	Dimension m: 4 mm	Dimension m: 4 mm
	Dimension n: 22 mm	Dimension n: 22 mm
	Tube Shell of Idlers: The tube shall be manufactured from seamless/ ERW steel tubes conforming to BIS:9295(Latest) and shall be ISI marked	Tube Shell of Idlers: The tube shall be manufactured from seamless/ ERW steel tubes conforming to BIS:9295(Latest) and shall be ISI marked
	Shaft: The shaft shall be of EN8 or C40 as per IS: 1570(Latest) and shall be manufactured to precise tolerance and high ground finish at bearing seats.	Shaft: The shaft shall be of EN8 or C40 as per IS: 1570(Latest) and shall be manufactured to precise tolerance and high ground finish at bearing seats.

Sealing of Idlers: All the idlers shall be sealed and greased for life. Only lithium based grease of reputed make shall be used. Multi labryrinth nylon seals consisting of a set of inner & outer labryrinth seals, one back seal with GI dust cover and Nylon rain cap shall be provided for retention of grease and for providing protection against dust, water etc.	Sealing of Idlers: All the idlers shall be sealed and greased for life. Only lithium based grease of reputed make shall be used. Multi labryrinth nylon seals consisting of a set of inner & outer labryrinth seals, one back seal with GI dust cover and Nylon rain cap shall be provided for retention of grease and for providing protection against dust, water etc.
Bearing Housing: Bearing Housing shall be manufactured out of press steel of CRCA, deep drawn quality having nominal thickness3.15 mm and bearing shall be press fitted as per IS:513 (Latest). The bearing housing shall be welded to the idler pipe/tube at both ends simultaneously and continuously by suitable welding process in a semi automatic/automatic welding machine.	Bearing Housing: Bearing Housing shall be manufactured out of press steel of CRCA, deep drawn quality having nominal thickness3.15 mm and bearing shall be press fitted as per IS:513 (Latest). The bearing housing shall be welded to the idler pipe/tube at both ends simultaneously and continuously by suitable welding process in a semi automatic/automatic welding machine.
Idler bearings: All the bearings used in the Idlers shall be sieze resistant Ball Bearings having polyamide cage with fins up to Bore Dia.30 mm & deep groove Ball Bearings having steel cage for internal Bore more than 30 mm. Bearings shall be of make ABL/SKF/NBC/FAG/NTN etc. Bearings shall be press fitted as per relevant BIS. Life of the bearings should be guaranteed for 25000 working hours.	Idler bearings: All the bearings used in the Idlers shall be sieze resistant Ball Bearings having polyamide cage with fins up to Bore Dia.30 mm & deep groove Ball Bearings having steel cage for internal Bore more than 30 mm. Bearings shall be of make ABL/SKF/NBC/FAG/NTN etc. Bearings shall be press fitted as per relevant BIS. Life of the bearings should be guaranteed for 25000 working hours.
Duty condition: Idlers shall be suitable for belt conveyors installed underground/open cast coal mines with a nominal carrying capacity of 600 TPH.	Duty condition: Idlers shall be suitable for belt conveyors installed underground/open cast coal mines with a nominal carrying capacity of 600 TPH.
Painting: All the idlers shall be painted with 2 coats of Red Oxide and one coat of synthetic enamel	Painting: All the idlers shall be painted with 2 coats of Red Oxide and one coat of synthetic enamel

Idlers (Top 1200 mm belt & Bottom 1200 mm belt)

Item Description	Specification Of Top 1200 mm belt	Specification Of Bottom 1200 mm belt
Idlers	Idlers of following size manufactured strictly as per latest version of IS:8598-1987: (1) Top Idler for 1200 mm belt	Idlers of following size manufactured strictly as per latest version of IS:8598 -1987: (1) Bottom Idler Large Diameter for 1200 mm belt
	Dimension of Idler :	Dimension of Idler :
	Wall thickness of Tube shell t1: 5.4 mm	Wall thickness of Tube shell t1 : 6.3 mm
	Tube shell length L1: 465 mm	Tube shell length L1 : 1400 mm
	Tube shell diameter d1 : 114.3 mm	Tube shell diameter d1 : 152.4 mm
	Shaft Length of idlers L2 : 497 mm	Shaft Length of idlers L2 : 1452 mm
	Shaft diameter at bearing seat d3 : 25 mm	Shaft diameter at bearing seat d3 : 35 mm
	Overall shaft diameter of idlers d2 : 30 mm	Overall shaft diameter of idlers d2 : 36 mm
	Bearing No. & equivalent: 420205	Bearing No. & equivalent: 6207
	Dimension b-1: 14 mm	Dimension b-1: 22 mm
	Dimension m: 4 mm	Dimension m: 4 mm
	Dimension n: 12 mm	Dimension n: 11 mm
	Tube Shell of Idlers: The tube shall be manufactured from seamless/ ERW steel tubes conforming to BIS:9295(Latest) and shall be ISI marked	Tube Shell of Idlers: The tube shall be manufactured from seamless/ ERW steel tubes conforming to BIS:9295(Latest) and shall be ISI marked
	Shaft: The shaft shall be of EN8 or C40 as per IS:1570(Latest) and shall be manufactured to precise tolerance and high ground finish at bearing seats.	Shaft: The shaft shall be of EN8 or C40 as per IS: 1570(Latest) and shall be manufactured to precise tolerance and high ground finish at bearing seats.
	Sealing of Idlers: All the idlers shall be sealed and greased for life. Only lithium based grease of reputed make shall be used. Multi labryrinth nylon seals consisting of a set of inner & outer labryrinth seals, one back seal with GI dust cover and Nylon rain cap shall be provided for retention of grease and for providing protection against dust, water etc.	Sealing of Idlers: All the idlers shall be sealed and greased for life. Only lithium based grease of reputed make shall be used. Multi labryrinth nylon seals consisting of a set of inner & outer labryrinth seals, one back seal with GI dust cover and Nylon rain cap shall be provided for retention of grease and for providing protection against dust, water etc.

	Bearing Housing: Bearing Housing shall be manufactured out of press steel of CRCA, deep drawn quality having nominal thickness3.15 mm and bearing shall be press fitted as per IS:513 (Latest). The bearing housing shall be welded to the idler pipe/tube at both ends simultaneously and continuously by suitable welding process in a semi automatic/automatic welding machine.	Bearing Housing: Bearing Housing shall be manufactured out of press steel of CRCA, deep drawn quality having nominal thickness3.15 mm and bearing shall be press fitted as per IS:513 (Latest). The bearing housing shall be welded to the idler pipe/tube at both ends simultaneously and continuously by suitable welding process in a semi automatic/automatic welding machine.
	Idler bearings: All the bearings used in the Idlers shall be sieze resistant Ball Bearings having polyamide cage with fins up to Bore Dia.30 mm & deep groove Ball Bearings having steel cage for internal Bore more than 30 mm. Bearings shall be of make ABL/SKF/NBC/FAG/NTN etc. Bearings shall be press fitted as per relevant BIS. Life of the bearings should be guaranteed for 25000 working hours.	Idler bearings: All the bearings used in the Idlers shall be sieze resistant Ball Bearings having polyamide cage with fins up to Bore Dia.30 mm & deep groove Ball Bearings having steel cage for internal Bore more than 30 mm. Bearings shall be of make ABL/SKF/NBC/FAG/NTN etc. Bearings shall be press fitted as per relevant BIS. Life of the bearings should be guaranteed for 25000 working hours.
	Duty condition: Idlers shall be suitable for belt conveyors installed underground/open cast coal mines with a nominal carrying capacity of 600 TPH.	Duty condition: Idlers shall be suitable for belt conveyors installed underground/open cast coal mines with a nominal carrying capacity of 600 TPH.
	Painting: All the idlers shall be painted with 2 coats of Red Oxide and one coat of synthetic enamel	Painting: All the idlers shall be painted with 2 coats of Red Oxide and one coat of synthetic enamel

Idlers (Top 1000 mm belt & Bottom 1000 mm belt)

Item Description	Specification Of Top 1000 mm belt	Specification Of Bottom 1000 mm belt
Idlers	Idlers of following size manufactured strictly as per latest version of IS:8598-1987: (1) Top Idler for 1000 mm belt	Idlers of following size manufactured strictly as per latest version of IS:8598 -1987: (1) Bottom Idler for 1000 mm belt
	Dimension of Idler :	Dimension of Idler :
	Wall thickness of Tube shell t1: 5.4 mm	Wall thickness of Tube shell t1 : 5.4 mm
	Tube shell length L1: 380 mm	Tube shell length L1 : 1150 mm
	Tube shell diameter d1: 114.3 mm	Tube shell diameter d1 : 114.3 mm
	Shaft Length of idlers L2: 412 mm	Shaft Length of idlers L2 : 1202 mm

	Shaft diameter at bearing seat d3: 25 mm	Shaft diameter at bearing seat d3 : 25 mm
	Overall shaft diameter of idlers d2 : 30 mm	Overall shaft diameter of idlers d2 : 30 mm
	Bearing No. & equivalent: 420205	Bearing No. & equivalent: 420205
	Dimension b-1: 14 mm	Dimension b-1: 18 mm
	Dimension m: 4 mm	Dimension m: 4 mm
	Dimension n: 12 mm	Dimension n: 22 mm
	Tube Shell of Idlers: The tube shall be manufactured from seamless/ ERW steel tubes conforming to BIS:9295(Latest) and shall be ISI marked	Tube Shell of Idlers: The tube shall be manufactured from seamless/ ERW steel tubes conforming to BIS:9295(Latest) and shall be ISI marked
	Shaft: The shaft shall be of EN8 or C40 as per IS: 1570(Latest) and shall be manufactured to precise tolerance and high ground finish at bearing seats.	Shaft: The shaft shall be of EN8 or C40 as per IS:1570(Latest) and shall be manufactured to precise tolerance and high ground finish at bearing seats.
	Sealing of Idlers: All the idlers shall be sealed and greased for life. Only lithium based grease of reputed make shall be used. Multi labryrinth nylon seals consisting of a set of inner & outer labryrinth seals, one back seal with GI dust cover and Nylon rain cap shall be provided for retention of grease and for providing protection against dust, water etc.	Sealing of Idlers: All the idlers shall be sealed and greased for life. Only lithium based grease of reputed make shall be used. Multi labryrinth nylon seals consisting of a set of inner & outer labryrinth seals, one back seal with GI dust cover and Nylon rain cap shall be provided for retention of grease and for providing protection against dust, water etc.
	Bearing Housing: Bearing Housing shall be manufactured out of press steel of CRCA, deep drawn quality having nominal thickness3.15 mm and bearing shall be press fitted as per IS:513 (Latest). The bearing housing shall be welded to the idler pipe/tube at both ends simultaneously and continuously by suitable welding process in a semi automatic/automatic welding machine.	Bearing Housing: Bearing Housing shall be manufactured out of press steel of CRCA, deep drawn quality having nominal thickness3.15 mm and bearing shall be press fitted as per IS:513 (Latest). The bearing housing shall be welded to the idler pipe/tube at both ends simultaneously and continuously by suitable welding process in a semi automatic/automatic welding machine.

	Idler bearings: All the bearings used in the Idlers shall be sieze resistant Ball Bearings having polyamide cage with fins up to Bore Dia.30 mm & deep groove Ball Bearings having steel cage for internal Bore more than 30 mm. Bearings shall be of make ABL/SKF/NBC/FAG/NTN etc. Bearings shall be press fitted as per relevant BIS. Life of the bearings should be guaranteed for 25000 working hours.	Idler bearings: All the bearings used in the Idlers shall be sieze resistant Ball Bearings having polyamide cage with fins up to Bore Dia.30 mm & deep groove Ball Bearings having steel cage for internal Bore more than 30 mm. Bearings shall be of make ABL/SKF/NBC/FAG/NTN etc. Bearings shall be press fitted as per relevant BIS. Life of the bearings should be guaranteed for 25000 working hours.
	Duty condition: Idlers shall be suitable for belt conveyors installed underground/open cast coal mines with a nominal carring capacity of 600 TPH.	Duty condition: Idlers shall be suitable for belt conveyors installed underground/open cast coal mines with a nominal carring capacity of 600 TPH.
	Painting: All the idlers shall be painted with 2 coats of Red Oxide and one coat of synthetic enamel	Painting: All the idlers shall be painted with 2 coats of Red Oxide and one coat of synthetic enamel

Idlers (Top 800 mm belt & Bottom 800 mm belt)

Item Description	Specification Of Top 800 mm belt	Specification Of Bottom 800 mm belt
Idlers	Idlers of following size manufactured strictly as per latest version of IS:8598-1987: (1) Top Idler for 800 mm belt	Idlers of following size manufactured strictly as per latest version of IS:8598- 1987: (1) Bottom Idler for 800 mm belt
	Dimension of Idler :	Dimension of Idler :
	Wall thickness of Tube shell t1: 5.4 mm	Wall thickness of Tube shell t1 : 5.4 mm
	Tube shell length L1: 315 mm	Tube shell length L1 : 950 mm
	Tube shell diameter d1: 114.3 mm	Tube shell diameter d1 : 114.3 mm
	Shaft Length of idlers L2: 347 mm	Shaft Length of idlers L2 : 1002 mm
	Shaft diameter at bearing seat d3 : 20 mm	Shaft diameter at bearing seat d3 : 25 mm
	Overall shaft diameter of idlers d2: 22 mm	Overall shaft diameter of idlers d2 : 30 mm
	Bearing No. & equivalent: 420204	Bearing No. & equivalent: 420205
	Dimension b-1: 14 mm	Dimension b-1: 18 mm
	Dimension m: 4 mm	Dimension m: 4 mm
	Dimension n: 12 mm	Dimension n: 22 mm
	Tube Shell of Idlers: The tube shall be manufactured from seamless/ ERW steel tubes conforming to BIS:9295(Latest) and shall be ISI marked	Tube Shell of Idlers: The tube shall be manufactured from seamless/ ERW steel tubes conforming to BIS:9295(Latest) and shall be ISI marked

	Shaft: The shaft shall be of EN8 0 or C40 as per IS:1570(Latest) and shall be manufactured to precise tolerance and high ground finish at bearing seats.	Shaft: The shaft shall be of EN8 or C40 as per IS:1570(Latest) and shall be manufactured to precise tolerance and high ground finish at bearing seats.
	Sealing of Idlers: All the idlers shall be sealed and greased for life. Only lithium based grease of reputed make shall be used. Multi labryrinth nylon seals consisting of a set of inner & outer labryrinth seals, one back seal with GI dust cover and Nylon rain cap shall be provided for retention of grease and for providing protection against dust, water etc.	Sealing of Idlers: All the idlers shall be sealed and greased for life. Only lithium based grease of reputed make shall be used. Multi labryrinth nylon seals consisting of a set of inner & outer labryrinth seals, one back seal with GI dust cover and Nylon rain cap shall be provided for retention of grease and for providing protection against dust, water etc.
	Bearing Housing: Bearing Housing shall be manufactured out of press steel of CRCA, deep drawn quality having nominal thickness3.15 mm and bearing shall be press fitted as per IS:513 (Latest). The bearing housing shall be welded to the idler pipe/tube at both ends simultaneously and continuously by suitable welding process in a semi automatic/automatic welding machine.	Bearing Housing: Bearing Housing shall be manufactured out of press steel of CRCA, deep drawn quality having nominal thickness3.15 mm and bearing shall be press fitted as per IS:513 (Latest). The bearing housing shall be welded to the idler pipe/tube at both ends simultaneously and continuously by suitable welding process in a semi automatic/automatic welding machine.
	Idler bearings: All the bearings used in the Idlers shall be sieze resistant Ball Bearings having polyamide cage with fins up to Bore Dia.30 mm & deep groove Ball Bearings having steel cage for internal Bore more than 30 mm. Bearings shall be of make ABL/SKF/NBC/FAG/NTN etc. Bearings shall be press fitted as per relevant BIS .Life of the bearings should be guaranteed for 25000 working hours.	Idler bearings: All the bearings used in the Idlers shall be sieze resistant Ball Bearings having polyamide cage with fins up to Bore Dia.30 mm & deep groove Ball Bearings having steel cage for internal Bore more than 30 mm. Bearings shall be of make ABL/SKF/NBC/FAG/NTN etc. Bearings shall be press fitted as per relevant BIS. Life of the bearings should be guaranteed for 25000 working hours.

	Duty condition: Idlers shall be suitable for belt conveyors installed underground/open cast coal mines with a nominal carrying capacity of 600 TPH.	Duty condition: Idlers shall be suitable for belt conveyors installed underground/open cast coal mines with a nominal carrying capacity of 600 TPH.
	Painting: All the idlers shall be painted with 2 coats of Red Oxide and one coat of synthetic enamel	Painting: All the idlers shall be painted with 2 coats of Red Oxide and one coat of synthetic enamel

Idlers (Top 1200 mm belt large dia & Bottom 1200 mm belt large dia)

Item Description	**Specification Of Top 1200 mm belt Large Dia**	**Specification Of Bottom 1200 mm belt Large Dia**
Idlers	Idlers of following size manufactured strictly as per latest version of IS:8598-1987: (1) Top Idler Large Diameter for 1200 mm belt	Idlers of following size manufactured strictly as per latest version of IS:8598 -1987: (1) Bottom Idler for 1200 mm belt
	Dimension of Idler :	Dimension of Idler :
	Wall thickness of Tube shell t1: 6.3 mm	Wall thickness of Tube shell t1 : 5.4 mm
	Tube shell length L1 : 465 mm	Tube shell length L1 : 1400 mm
	Tube shell diameter d1 : 152.4 mm	Tube shell diameter d1 : 114.3 mm
	Shaft Length of idlers L2 : 497 mm	Shaft Length of idlers L2 : 1452 mm
	Shaft diameter at bearing seat d3 : 30 mm	Shaft diameter at bearing seat d3 : 30 mm
	Overall shaft diameter of idlers d2 : 35 mm	Overall shaft diameter of idlers d2 : 36 mm
	Bearing No. & equivalent: 420206	Bearing No. & equivalent: 420206
	Dimension b-1: 22 mm	Dimension b-1: 22 mm
	Dimension m: 5 mm	Dimension m: 4 mm
	Dimension n: 11 mm	Dimension n: 22 mm
	Tube Shell of Idlers: The tube shall be manufactured from seamless/ ERW steel tubes conforming to BIS:9295(Latest) and shall be ISI marked	Tube Shell of Idlers: The tube shall be manufactured from seamless/ ERW steel tubes conforming to BIS:9295(Latest) and shall be ISI marked
	Shaft: The shaft shall be of EN8 or C40 as per IS: 1570(Latest) and shall be manufactured to precise tolerance and high ground finish at bearing seats.	Shaft: The shaft shall be of EN8 or C40 as per IS: 1570(Latest) and shall be manufactured to precise tolerance and high ground finish at bearing seats.

	Sealing of Idlers: All the idlers shall be sealed and greased for life. Only lithium based grease of reputed make shall be used. Multi labryrinth nylon seals consisting of a set of inner & outer labryrinth seals, one back seal with GI dust cover and Nylon rain cap shall be provided for retention of grease and for providing protection against dust, water etc.	Sealing of Idlers: All the idlers shall be sealed and greased for life. Only lithium based grease of reputed make shall be used. Multi labryrinth nylon seals consisting of a set of inner & outer labryrinth seals, one back seal with GI dust cover and Nylon rain cap shall be provided for retention of grease and for providing protection against dust, water etc.
	Bearing Housing: Bearing Housing shall be manufactured out of press steel of CRCA, deep drawn quality having nominal thickness3.15 mm and bearing shall be press fitted as per IS:513 (Latest). The bearing housing shall be welded to the idler pipe/tube at both ends simultaneously and continuously by suitable welding process in a semi automatic/automatic welding machine.	Bearing Housing: Bearing Housing shall be manufactured out of press steel of CRCA, deep drawn quality having nominal thickness3.15 mm and bearing shall be press fitted as per IS:513 (Latest). The bearing housing shall be welded to the idler pipe/tube at both ends simultaneously and continuously by suitable welding process in a semi automatic/automatic welding machine.
	Idler bearings: All the bearings used in the Idlers shall be sieze resistant Ball Bearings having polyamide cage with fins up to Bore Dia.30 mm & deep groove Ball Bearings having steel cage for internal Bore more than 30 mm. Bearings shall be of make ABL/SKF/NBC/FAG/NTN etc. Bearings shall be press fitted as per relevant BIS. Life of the bearings should be guaranteed for 25000 working hours.	Idler bearings: All the bearings used in the Idlers shall be sieze resistant Ball Bearings having polyamide cage with fins up to Bore Dia.30 mm & deep groove Ball Bearings having steel cage for internal Bore more than 30 mm. Bearings shall be of make ABL/SKF/NBC/FAG/NTN etc. Bearings shall be press fitted as per relevant BIS. Life of the bearings should be guaranteed for 25000 working hours.
	Duty condition: Idlers shall be suitable for belt conveyors installed underground/open cast coal mines with a nominal carrying capacity of 600 TPH.	Duty condition: Idlers shall be suitable for belt conveyors installed underground/open cast coal mines with a nominal carrying capacity of 600 TPH.
	Painting: All the idlers shall be painted with 2 coats of Red Oxide and one coat of synthetic enamel	Painting: All the idlers shall be painted with 2 coats of Red Oxide and one coat of synthetic enamel

Idlers (Impact 1200 mm belt)

Item Description	Specification Of Impact 1200 mm belt
Idlers	Idlers of following size manufactured strictly as per latest version of IS:8598 -1987: (1) Impact Idler with rubber disc of 154 mm for 1200 mm belt
	Dimension of Idler :
	Wall thickness of Tube shell t1 : 5.4 mm
	Tube shell length L1 : 465 mm
	Tube shell diameter d1 : 114.3 mm
	Shaft Length of idlers L2 : 497 mm
	Shaft diameter at bearing seat d3 : 35 mm
	Overall shaft diameter of idlers d2 : 40 mm
	Bearing No. & equivalent: 6207
	Dimension b-1: 22 mm
	Dimension m: 4 mm
	Dimension n: 11 mm
	Tube Shell of Idlers: The tube shall be manufactured from seamless/ ERW steel tubes conforming to BIS:9295(Latest) and shall be ISI marked
	Shaft: The shaft shall be of EN8 or C40 as per IS: 1570(Latest) and shall be manufactured to precise tolerance and high ground finish at bearing seats.
	Sealing of Idlers: All the idlers shall be sealed and greased for life. Only lithium based grease of reputed make shall be used. Multi labryrinth nylon seals consisting of a set of inner & outer labryrinth seals, one back seal with GI dust cover and Nylon rain cap shall be provided for retention of grease and for providing protection against dust, water etc.
	Bearing Housing: Bearing Housing shall be manufactured out of press steel of CRCA, deep drawn quality having nominal thickness3.15 mm and bearing shall be press fitted as per IS:513 (Latest). The bearing housing shall be welded to the idler pipe/tube at both ends simultaneously and continuously by suitable welding process in a semi automatic/automatic welding machine.
	Idler bearings: All the bearings used in the Idlers shall be seize resistant Ball Bearings having polyamide cage with fins up to Bore Dia.30 mm & deep groove Ball Bearings having steel cage for internal Bore more than 30 mm. Bearings shall be of make ABL/SKF/NBC/FAG/NTN etc. Bearings shall be press fitted as per relevant BIS. Life of the bearings should be guaranteed for 25000 working hours.
	Duty condition: Idlers shall be suitable for belt conveyors installed underground/open cast coal mines with a nominal carrying capacity of 600 TPH.
	Rubber Rings for Impact Idlers: Impact Idlers shall be provided with rubber rings of required sizes of natural rubber with shore hardness of 65(+/- 5)
	Painting: All the idlers shall be painted with 2 coats of Red Oxide and one coat of synthetic enamel

The End