

MACHINING DEVIATIONS FOR LINEAR DIMENSIONS	RANGE	0 - 6	6 - 30	30 - 120	120 - 315	315-1000	1000-2000	2000-4000	ABOVE 4000	RA
	TOLERANCE		±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2	±3

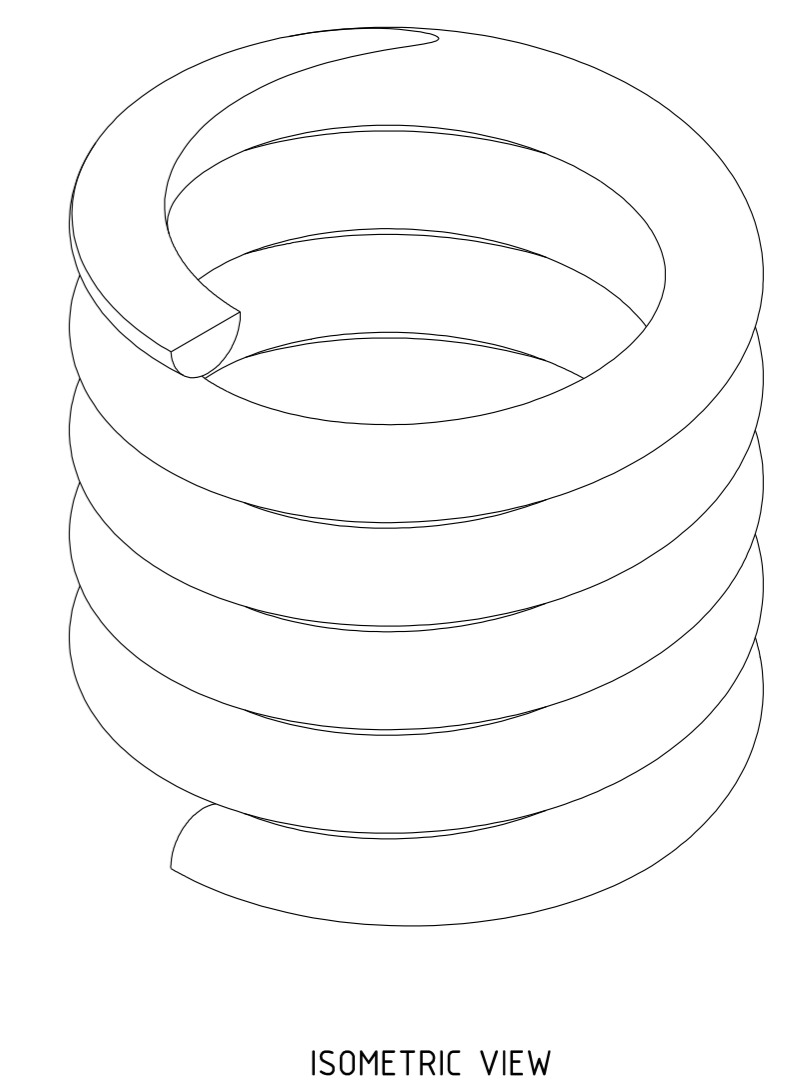
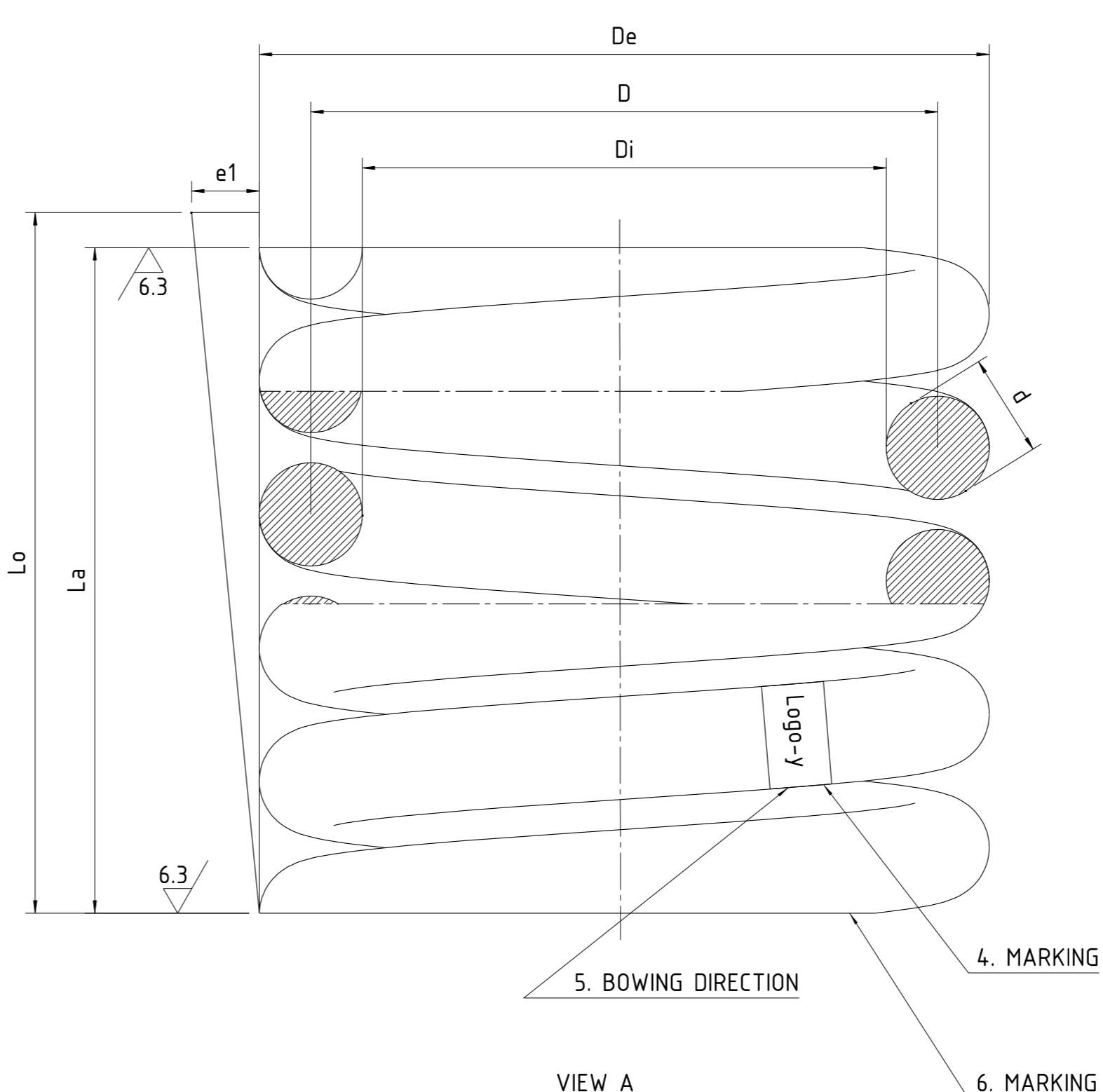
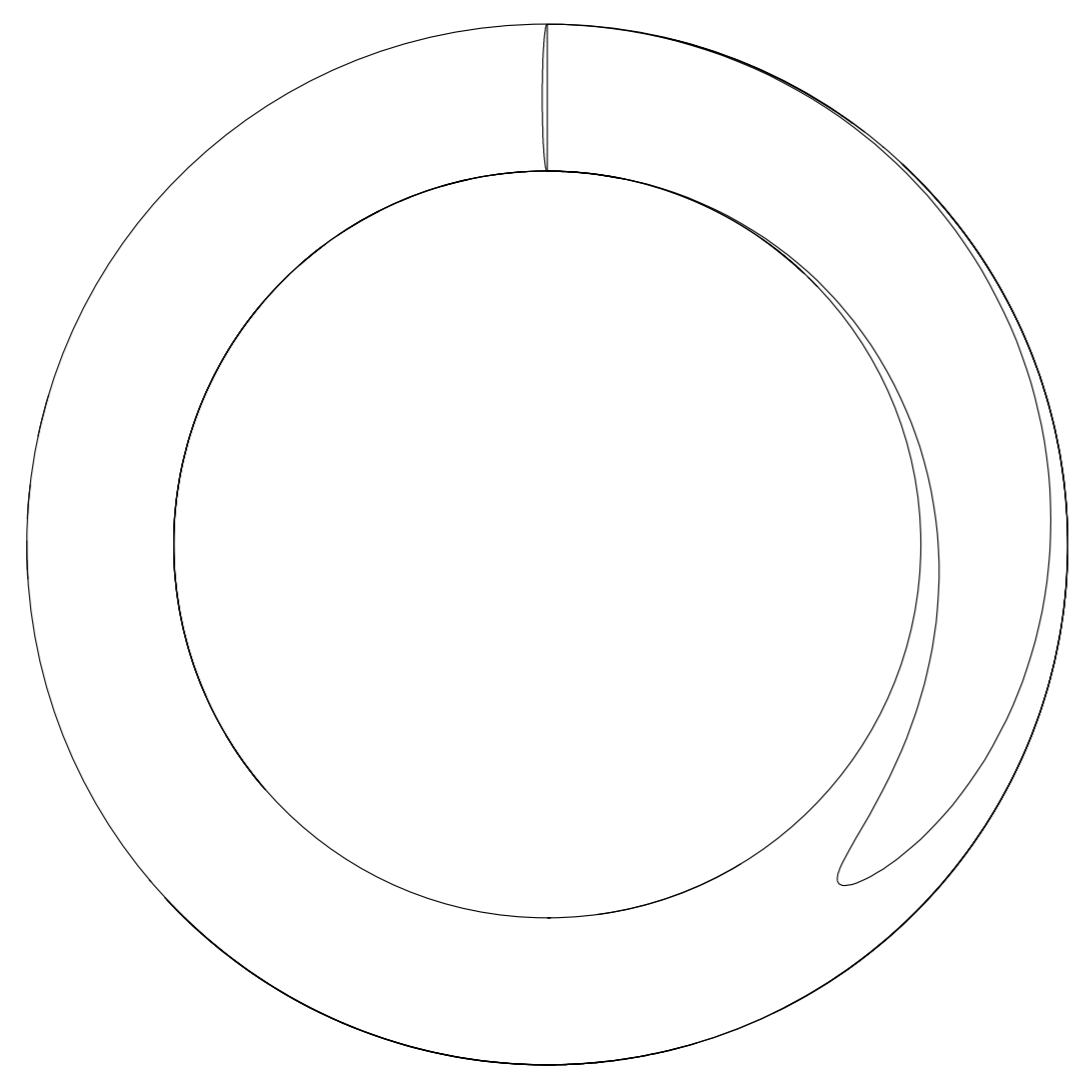
FOR DIMENSIONAL TOLERANCES OF SHEET METAL PARTS AND WELDED STRUCTURES, REFER STD. RD-227

UNSPECIFIED TOLERANCE FOR LINEAR AND ANGULAR DIMENSIONS REF. IS 2102 (PT-1) (MEDIUM) QUALITY OF WELD JOINTS REF, RD 230 MEDIUM

VALUES OF SURFACE TEXTURE SHALL BE AS PER COMPANY STD DS. 1012.C

WELDING SHALL BE CARRIED OUT AS PER IS: 9595-96

STATUS: **PROTO**



SPECIFICATION		
EN 13298 CAT. B		
MANUFACTURING DATA		
WIRE DIAMETER	d (mm)	41
MEAN DIAMETER	D (mm)	249.5
UNLOADED LENGTH	L ₀ (mm)	310
NUMBER OF WORKING COILS	n (-)	3.2
TOTAL NUMBER OF COILS	nt (-)	5
HEAT TREATMENT - HARDNESS		(45/51) HRC 426/507 HB
DIRECTION OF HELIX		RIGHT
AXIAL TESTING LOAD FOR LENGTH (STATIC) "L _A "	F _A =AW0 (N)	(25.036)
AXIAL WORKING LOAD	F=AW3(N)	(31.576)
AXIAL WORKING LOAD (MAX. DYNAMIC)	F _B =1.4*AW3 (N)	(44.206)
COIL SPACING COEFFICIENT AT LOAD "F _B "	a (-)	0.467
MAXIMUM STRESS AT LOAD "F _A "	(MPa)	285
MAXIMUM STRESS AT LOAD "F"	(MPa)	359
MAXIMUM STRESS AT LOAD "F _B "	(MPa)	503
ACCEPTANCE DATA OF THE SPRING		
LENGTH AT LOAD WITHOUT SHIM "F _A "	L _A (mm)	(265.5)
LENGTH AT LOAD "F _B "	L _B (mm)	(231.5)
SOLID LENGTH	L _C (mm)	(191.0)
INSIDE COIL DIAMETER	Di (mm)	208.5±1.9
OUTSIDE COIL DIAMETER	De (mm)	290.5±2.8
PERPENDICULARITY OF SPRING	e1 (mm)	<4.7
LATERAL STIFFNESS AT F _A =AW0 [N]	(N/mm)	(716.6)±15%
LOADS FOR THE AXIAL STIFFNESS MEASUREMENT	F _U (N) F _V (N)	-
AXIAL STIFFNESS BETWEEN "FU:FV"	Ks= F _V - F _U L _U - L _V	(562)
CONTACT LINE AT AW3	(mm)	min 82

- SPECIFIC MANUFACTURING INSTRUCTIONS**
- THE SPRINGS TO BE ACC. TO "EN 13298 CATEGORY B".
 - ENDS OF THE SPRING TO BE CLOSED AND GROUND ACC. TO "ISO 2162-2 TAB 2.D".
 - SHOT PEENING 0.4/0.6 mm ALMEN A.
 - MARKING : HEIGHT OF SPRING SET L_A - NO SPRING SET - GROUP OF SPRING SET TO BE MARKED ON OUTER SPRING BY Cu LABEL. ON INNER SPRING NO. SPRING SET BY Cu LABEL
- GROUP I = L (F_A) = 263.5/265.5 mm
- GROUP II = L (F_A) = 265.5/267.5 mm
 - BOWING DIRECTION TO BE MEASURED AT F_A (SEPERATE SPRING). MARKED BY WHITE PAINT STRIPE ON THE FIRST BOTTOM ACTIVE COIL.
 - MARKING : LOGO - YEAR/MONTH BT HOT STAMP ON INACTIVE COIL
 - MAX. PERMISSIBLE DEFLECTION TO LENGTH "L_M = 210mm".
 - ANTICORROSION PROTECTION : ROKOPOX MASTIC. RK301 NCS 8500N SEMI GLOSS. TOTAL THICKNESS MIN. = 80µm.

NOTE:

- SHARP EDGES REMOVED BY SHOT PEENING.
- THE CHARACTERISTICS MAY VARY IN THE RANGE OF +/- 20%

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./IS	Wt. (Kg)
			PRODUCT	MUMBAI METRO CARS L2 & L7		
			REF DRG			
			MATERIAL	52CrMoV4 as per EN10089		
			HEAT TREAT.	APPD	MS	
			SURFACE TREAT.	REVD	SSB	
			TITLE	CHKD	RSS	
				DRWN	VSE	
				SCALE	1:2	
				SHEET	1 OF 1	36.5kg
				DRG No.	525-81106	
				BEM BEM LIMITED		ALT 1
ALT.NO.	ECN NO/CHANGES	DATE	BY	CHKD	APPD	

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GRADE No.	VALUE	SYMBOL
N1	0.1	▽
N2	0.2	▽
N3	0.3	▽
N4	0.4	▽
N5	0.5	▽
N6	0.6	▽
N7	0.7	▽
N8	0.8	▽
N9	0.9	▽
N10	1.0	▽
N11	1.25	▽
N12	1.5	▽