

SINGLA PRECISION SCREWS

Doc. No. : SYS-F-24 Issue
No. : 00 Date :
01-05-2021

CONTROL PLAN

<input type="checkbox"/> Prototype <input type="checkbox"/> Prelaunch <input checked="" type="checkbox"/> Production	Key Contact / Phone : 9215515696	Date(orig) : 22.08.2022	Page : 01 OF 02
Control Plan No : CP - PET038 / 08 Part Number / Latest change level : 82601402 / XE Part name/ Description : FORK BOLT (K-60)		Core Team : ENGG/PROD/Q.A/P.P.C Supplier / plant Approval / Date- Other Approval Date (If req'd)	
Supplier : SPS ROHTAK Supplier code : 101263		Customer Engineering Approval Date (If Req'd) Customer Quality Approval Date (If Req'd) Other Approval Date (If Req'd)	

Part/ Process Number	Process Name / Operation Description	Machine Device, Jigs, Tools For Mfg	Characteristics			Special Char. Class	Product / Process Specification / Tolerance	Evaluation Measurement technique	Sample		Control Method	RECORD YES/NO	Resp.	Reaction Plan	
			No.	Product	Process				Size	Frequency					
1	RAW MATERIAL (EN - 8M)		1	O.D		●	29.25/29.35	MIC	EACH BAR		INWARD INSPECTION	YES	INSP.	MATL. RETURN TO SUPPLIER	
			2	SURFACE FINISH			NO PITS, DENTS & SCRATCHES	VISUAL	EACH BAR		-----DO-----	YES	INSP.	-----DO-----	
			3	CRACK				NO CRACK	ECID EATCHING	EACH BAR		-----DO-----	YES	INSP.	-----DO-----
			4	CHEMICAL COMPOSITION				C,0.35-0.45, Mn:1.00-1.30, P,0.06 MAX., S,0.12-0.20, Si,0.25 MAX.	SUPPLIER TEST CERTIFICATE	SPECTRO ANALYSIS	AFTER EVERY 6 MONTHS	OUTWARD INSPECTION	YES	INSP.	-----DO-----
2	CNC TURNING	CNC MACHINE	1	LENGTH			19.70/19.90	D.V.C	5 PCS	1 HR.	-----DO-----	YES	OP./INSP.	REWORK/REJECT	
			2	COLLAR THICK			4.00/4.08	D.V.C	5 PCS	1 HR.	-----DO-----	YES	OP./INSP.	REWORK/REJECT	
			3	DIM.			5.35/5.45	D.V.C	5 PCS	1 HR.	-----DO-----	YES	OP./INSP.	REWORK/REJECT	
			4	BODY LENGTH			3.45/3.55	D.V.C	5 PCS	1 HR.	-----DO-----	YES	OP./INSP.	REWORK/REJECT	
			5	GROOVE WIDTH			3.08/3.18	D.V.C / SLIP GAUGE	5 PCS	1 HR.	-----DO-----	YES	OP./INSP.	REWORK/REJECT	
			6	BODY LENGTH - I			1.90/2.10	D.V.C	5 PCS	1 HR.	-----DO-----	YES	OP./INSP.	REWORK/REJECT	
			7	BODY DIA (2 LACES)			26.08/26.15	MIC	5 PCS	1 HR.	-----DO-----	YES	OP./INSP.	REWORK/REJECT	
			8	TRD DIA			25.19/25.21	MIC	5 PCS	1 HR.	-----DO-----	YES	OP./INSP.	REWORK/REJECT	
			9	GROOVE DIA			22.52/22.65	BLADE MIC / SNAP GAUGE	5 PCS	1 HR.	-----DO-----	YES	OP./INSP.	REWORK/REJECT	
			10	POINTING RADIUS			0.20	P.P	2 PC.	1 HR.	-----DO-----	YES	INSP.	REWORK/REJECT	
			11	CHAMFER LENGTH			2.50/2.70	P.P	2 PC.	1 HR.	-----DO-----	YES	INSP.	REWORK/REJECT	
			12	CHAMFER ANGLE			25°	P.P	2 PC.	1 HR.	-----DO-----	YES	INSP.	REWORK/REJECT	
			13	CHAMFER (3 LACES)			0.10-0.20x45°	P.P	2 PC.	1 HR.	-----DO-----	YES	INSP.	REWORK/REJECT	
			14	DRILL DEPTH WITHOUT ANGLE			24.30 MIN	D.V.C	5 PCS	1 HR.	-----DO-----	YES	OP./INSP.	REWORK/REJECT	
			15	DRILL DEPTH WITH ANGLE			25.30 MAX	D.V.C	5 PCS	1 HR.	-----DO-----	YES	OP./INSP.	REWORK/REJECT	
			16	CHAMFER (2 LACES)			0.5x25°	P.P	2 PC.	1 HR.	-----DO-----	YES	INSP.	REWORK/REJECT	
			17	DIM - I			5.80/5.98	D.V.C	5 PCS	1 HR.	-----DO-----	YES	OP./INSP.	REWORK/REJECT	
			18	CHAMFER LENGTH - I			1.40/1.60	P.P	2 PC.	1 HR.	-----DO-----	YES	INSP.	REWORK/REJECT	
			19	CHAMFER ANGLE - I			15°	P.P	2 PC.	1 HR.	-----DO-----	YES	INSP.	REWORK/REJECT	
			20	TAPPING DIA			8.75/8.55	P.P.G	5 PCS	1 HR.	-----DO-----	YES	OP./INSP.	REWORK/REJECT	
			21	INNER DIA			10.90/11.10	P.P/D.V.C	5 PCS	1 HR.	-----DO-----	YES	OP./INSP.	REWORK/REJECT	
			22	DIA			16.66/16.72	MIC	5 PCS	1 HR.	-----DO-----	YES	OP./INSP.	REWORK/REJECT	
			23	COLLAR DIA			29.35/29.45	MIC	5 PCS	1 HR.	-----DO-----	YES	OP./INSP.	REWORK/REJECT	
			24	COUNTER			0.5x25°	P.P	2 PC.	1 HR.	-----DO-----	YES	INSP.	REWORK/REJECT	
3	TAPPING	TAPPING MACHINE	1	THREAD(GO/NOGO)			M10x1.25 - 6H	T.P.G (GO/NOGO)	5 PCS	1 HR.	-----DO-----	YES	OP./INSP.	REWORK/REJECT	
			2	TAPPING LENGTH			22.30 MIN.	T.P.G + V.C	5 PCS	1 HR.	-----DO-----	YES	OP./INSP.	REWORK/REJECT	

OP - OPERATOR INSP- INSPECTOR	V.C - VERNIER CALLIPER MIC - MICROMETER	P.P - PROFILE PROJECTOR D.I - DIAL INDICATOR	T.P.G - THREAD PLUG GAUGE T.R.G - THREAD RING GAUGE	D.V.C - DIG.VERNIER CALLIPER
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Control Plan No : CP - PET038 / 08				
Part Number / Latest change level : 82601402 / XE		Core Team : ENGG/PROD/Q.A/P.P.C		
Part name/ Description : FORK BOLT (K-60)		Customer Engineering Approval Date (If Req'd)		
Supplier : SPS ROHTAK		Customer Quality Approval Date (If Req'd)		
Supplier code 101263		Other Approval Date (If req'd)		

Part/ Process Number	Process Name / Operation Description	Machine Device, Jigs, Tools For Mfg	Characteristics				Special Char. Class	Product / Process Specification / Tolerance	Evaluation Measurement technique	Sample		Control Method	RECORD YES/NO	Resp.	Reaction Plan
			No.	Product	Process	Methods				Size	Frequency				
4	RE - TAPPING	TAPPING MACHINE	1	THREAD(GO/NOGO)			M10x1.25 - 6H	T.P.G (GO/NOGO)	5 PCS	1 HR.	INPROCESS INSPECTION	YES	OP./INSP.	REWORK/REJECT	
			2	TAPPING LENGTH			22.30 MIN.	T.P.G + V.C	5 PCS	1 HR.	-----DO-----	YES	OP./INSP.	REWORK/REJECT	
5	THD. ROLLING	ROLLING MACHINE	1	THREADS			M26x1.0 - 6g	T.R.G (GO/NOGO)	5 PCS	1 HR.	-----DO-----	YES	OP./INSP.	REWORK/REJECT	
			2	THREAD LENGTH			10.50 MIN.	T.R.G + V.C	5 PCS	1 HR.	-----DO-----	YES	OP./INSP.	REWORK/REJECT	
6	SURFACE TREATMENT (ZUM TARA PLATING PLANT FROM AURANGABAD & CONTROL BY SINGLA FORGING SUPERVISOR)	PLATING TANK	1	PLATING			ZINC PLATING + YELLOW PASSIVATION+BLEACHING+LACQUERING	THICKNESS TESTER	100%		-----DO-----	YES	INSP.	REWORK/REJECT	
			2	COATING THICKNESS			8 ~ 10µ	THICKNESS TESTER	5 PCS	1 HR	-----DO-----	YES	INSP.	REWORK/REJECT	
			3	SST LIFE			72 HRS FOR WHITE RUST 240 HRS FOR RED RUST	SALT SPRAY TESTER	-----	-----	-----DO-----	YES	-----	LOT RETURN BACK TO PARTY	
			4	THREADS (GO/NOGO)			M26x1.0 - 6h	T.R.G (GO/NOGO)	5 PCS	LOT	-----DO-----	YES	INSP.	REWORK/REJECT	
7	RE - TAPPING CHECK	TAPPING MACHINE	1	THREAD(GO/NOGO)			M10x1.25 - 6H	T.P.G (GO/NOGO)	100%		INPROCESS INSPECTION	YES	OP./INSP.	REWORK/REJECT	
			2	TAPPING LENGTH			22.30 MIN.	T.P.G + V.C	100%		-----DO-----	YES	OP./INSP.	REWORK/REJECT	
8	FINAL INSPECTION AT AURANGABAD		1	LENGTH			19.50/20.00	D.V.C	AS PER SAMP. PLAN		PDIR	YES	INSP.	-----	
			2	STEP LENGTH			5.30/5.50	D.V.C	-----DO-----		-----DO-----	YES	INSP.	-----	
			3	COLLAR THICK			4.00/4.10	D.V.C	-----DO-----		-----DO-----	YES	INSP.	-----	
			4	A/F			26.50/27.00	MIC.	-----DO-----		-----DO-----	YES	INSP.	-----	
			5	COLLAR DIA.			29.30/29.50	MIC.	-----DO-----		-----DO-----	YES	INSP.	-----	
			6	GROOVE DIA.			22.50/22.70	SNAP GAUGE	-----DO-----		-----DO-----	YES	INSP.	-----	
			7	INNER DIA.			11.00	P.P.G	-----DO-----		-----DO-----	YES	INSP.	-----	
			8	STEP DIA.			16.70/16.80	P.R.GAUGE	-----DO-----		-----DO-----	YES	INSP.	-----	
			9	BOTTOM THICKNESS			4.0 MIN.	PIN + GAUGE	-----DO-----		-----DO-----	YES	INSP.	-----	
			10	TAPPING LENGTH			22.0 MIN.	T.P.G + D.V.C	-----DO-----		-----DO-----	YES	INSP.	-----	
			11	GROOVE WIDTH			3.00/3.20	D.V.C / SLIP GAUGE	-----DO-----		-----DO-----	YES	INSP.	-----	
			12	DIM.			2.50	D.V.C	-----DO-----		-----DO-----	YES	INSP.	-----	
			13	THREADS - I			M26x1.0 - 6g	T.R.G (GO/NOGO)	-----DO-----		-----DO-----	YES	INSP.	-----	
			14	THREADS - II			M10x1.25 - 6h	T.P.G (GO/NOGO)	100%		-----DO-----	YES	INSP.	-----	
			15	BODY DIA.			26.00/26.20	MIC.	-----DO-----		-----DO-----	YES	INSP.	-----	
			16	BODY LENGTH			3.50	D.V.C	-----DO-----		-----DO-----	YES	INSP.	-----	
			17	DRILL DEPTH			5.80/6.00	D.V.C	-----DO-----		-----DO-----	YES	INSP.	-----	
			18	CHAMFER			1.0x45°	P.P	-----DO-----		-----DO-----	YES	INSP.	-----	
			19	ANGLE			1.50x15°	P.P	-----DO-----		-----DO-----	YES	INSP.	-----	
			20	COUNTER			0.5x45°	P.P	-----DO-----		-----DO-----	YES	INSP.	-----	
			21	PLATING			ZINC PLATING YELLOW PASSI.+BLEACHING+LACQUERING	VISUAL	-----DO-----		-----DO-----	YES	INSP.	-----	
			22	PLATING THICKNESS			8µ	PLATING THICK. TESTER	-----DO-----		-----DO-----	YES	INSP.	-----	
			23	PERPANDICULRITY			0.10	DIAL + V-BLOCK	-----DO-----		-----DO-----	YES	INSP.	-----	
			24	CONCENTRICITY			0.10	DIAL + V-BLOCK	-----DO-----		-----DO-----	YES	INSP.	-----	
			25	APPEARANCE			NO BURR,DENT,RUST,CRACK,NO PLATING PEEL OFF.NO BLACK SPOTE	VISUAL	100% VISUAL SORTING		-----DO-----	YES	INSP.	-----	
9	PACKING	MANUAL					AS PER CUSTOMER REQUIREMENT						SUP.		

OP - OPERATOR V.C - VERNIER CALLIPER P.P - PROFILE PROJECTOR T.P.G - THREAD PLUG GAUGE D.V.C - DIG.VERNIER CALLIPER
INSP - INSPECTOR MIC - MICROMETER D.I - DIAL INDICATOR T.R.G - THREAD RING GAUGE

RETAPPING CHECK PROCESS ADDED AFTER PLATING