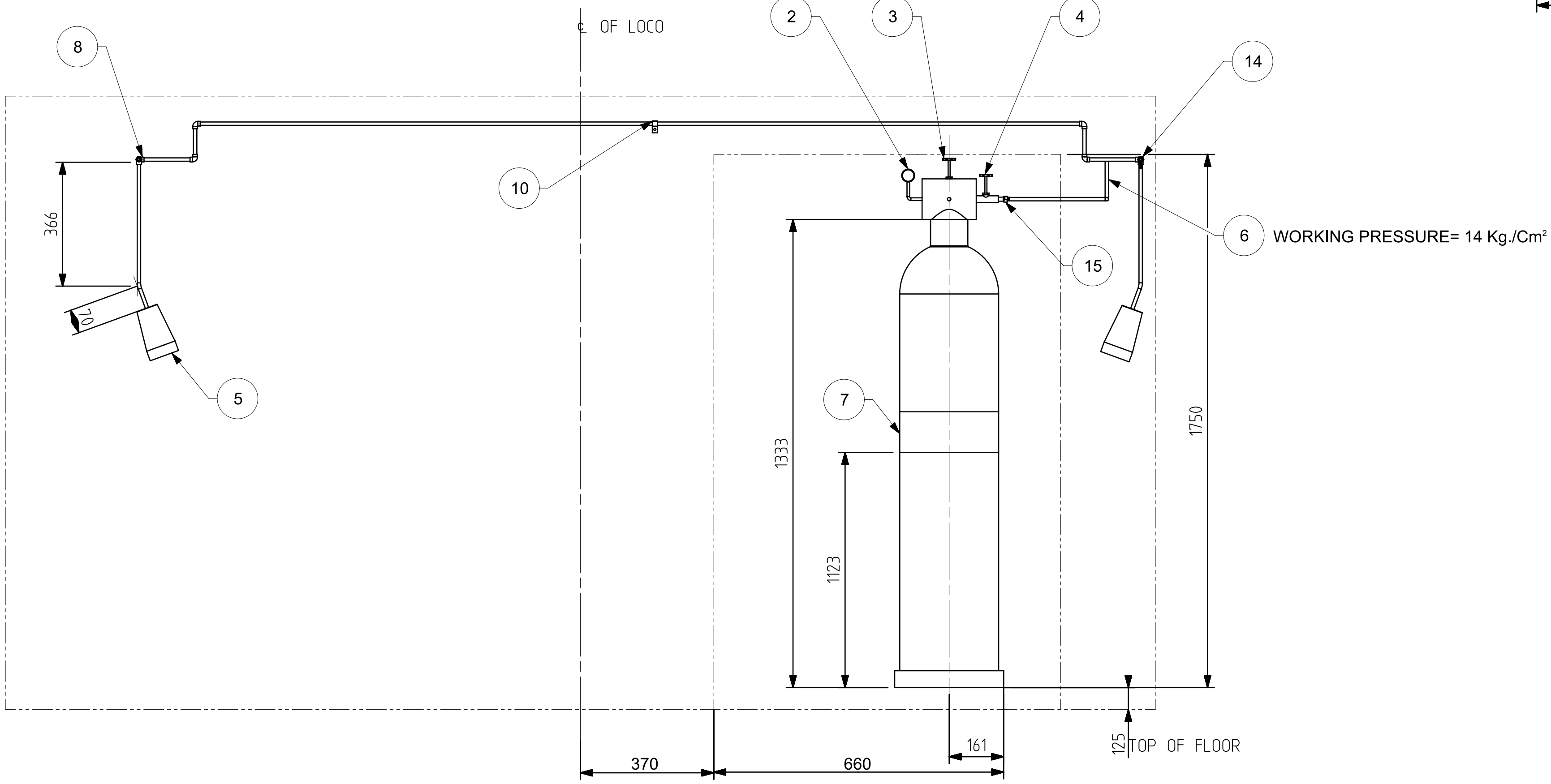


SECTION B-B  
SCALE 1:5



SECTION A-A  
SCALE 1:10

SL.NO	LENGTH OF PIPE IN mm	QTY./LOCO.
10	450	4
9	90	3
8	150	2
7	2610	1
6	3700	1
5	2650	2
4	2750	1
3	2860	1
2	1630	1
1	3310	2

CHART FOR ALL SIZE OF PIPE

- NOTE:  
1) FIRE EXTINGUISHING SYSTEM TO BE SUPPLIED AS PER CATEGORY NO R/9/109&R/9/0110  
2) FOR TECH. DETAIL REF. SPECN. NO. CLWMS/3/108  
3) QTY./LOCO AND LENGTH OF PIPE INDICATED IN DETAIL AT CHART  
4) 450 mm PIPE SHALL BE BEND AT 20°ANGLE AT ONE END.  
5) ITEM NO. 5,8&12 MAY BE SUPPLIED BY THE FIRM AS PER THEIR DRAWINGS.

9	DY.CEE/D-III	SPECIFICATION OF FIRE EXTINGUISHER AT REF. NO. 1 CHANGED FROM IS:16018 TO IS: 7285-2 & PESO APPROVED	
8	DY.CEE/D-III	NOTE 4&5 ARE ADDED. HOLE Ø 6.5 WAS Ø 4.5, DESC. OF REF.NO. 14&15 CHANGED. MATL.&SPECN. ARE CHANGED OF REF. NO. 3,8,12&13. SPECN. OF REF. NO. 1 CHANGED	
7	DY.CEE/D/CONV.	PART DRG. NO. OF REF. NO. 7 WAS 1209-00.440-111	
6	DY.CEE/D/CONV.	LENGTH OF PIPE CHANGED AT SL.NO. 1,3,5,6&10. QTY. OF PIPE CHANGED AT SL.NO. 4,5,9. QTY./LOCO CHANGED OF REF. NO. 9,10,13. CHANGED DESCRIPTION OF REF. NO. 9&6	
5	DY. CEE/D-1	LENGTH OF PIPE CHANGED, ADDED ITEM 12,13,14,15, QTY. OF ITEM 9 & 10 INCREASED AS PER REQUIREMENT OF ASSLY. SHOP 16 /ERC/CLW. NOTE 3 CHANGED	
4	DY. CEE/D-1	NEW DRG. OF WAP-5 LOCO INCORPORATED	SD/-
3	DY. CEE/D-1	QTY. OF REF. NO. 5&8 WAS 4&4 RESPECTIVELY C&D, DIMN 220& 75 ADDED, NOTE 3 ADDED	SD/-
2	DY.CEE/D-1 CON-TU-1	QTY. OF REF. NO. 2, 2 WAS 4, LENGTH OF REF.6, 15 m WAS 5.0 m	SD/-
1	DY.CEE/D-1 CON-TU-1	THE LENGTH OF REF. 11 DELETED & TRANSFERED TO SPECIFICATION	SD/-
ALT. NO.	AUTHY.	DESCRIPTION	INITIAL

15			1/8"X 1/4" NIPPLE	2	STEEL	ASTM-A108	
14			3/8"X3/8" NIPPLE	2	STEEL	ASTM-A108	
13	1209-00.440-240		HEXAGONAL SOCKET 1/8" BSPP	12	FORGED STAINLESS STEEL	ASTM-A182 GR.304	
12	1209-00.440-239		FEMALE ELBOW 1/8" BSPP	8	FORGED STAINLESS STEEL	ASTM-A182 GR.304	
11	1209-00.440-242		SS TUBE 10-O/D X 1/4" I/D X 1/8"BSPT	SEE NOTE 3	STAINLESS STEEL	ASTM-A269 GR.304	
10	1209-00.440-237		CLAMP FOR 10- O/D SS TUBE	30	STAINLESS STEEL	ASTM-A240 GR. 304	
9	1209-18.406-360-001		BOLT HEX	30	STAINLESS STEEL	IS:1364, PT-2	
8	1209-00.440-241		EQUAL TEE 1/8" BSPP X1/8" BSPP X 1/8" BSPP	5	FORGED STAINLESS STEEL	ASTM-A182 GR.304	
7	1209-00.440-205		CLAMP FOR CYLINDER WITH PAD	2	STEEL		
6			FLEXIBLE HOSE 1.0 m LG. WITH CIR. CLIP	2	PVC REINFORCED		
5	1209-00.440-238		DIFFUSER FOR GAS DICHARGE	4	STAINLESS STEEL		
4			ISOLATING COCK	2	STEEL		
3			WHEEL COCK	2	BRASS	IS:3224	
2			PRESSURE GAUGE	2			
1			FIRE EXTINGUISHER 22.5 KG. CAPACITY	1	STEEL	IS:7285-2 & PESO APPROVED	
REF.NO.	C&D NO.	DRG.NO.	DESCRIPTION	QTY./LOCO	MATL.	SPECN.	WT. IN KG.

FIRST ISSUED

DRAWN BY

CHECKED BY

APPROVED BY

CHITTARANJAN LOCOMOTIVE WORKS

MANUAL FIRE EXTINGUISHING EQUIPMENT FOR 3PH THYRESTOR BASED ELC.LOCO

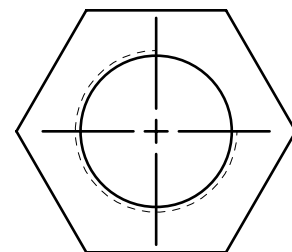
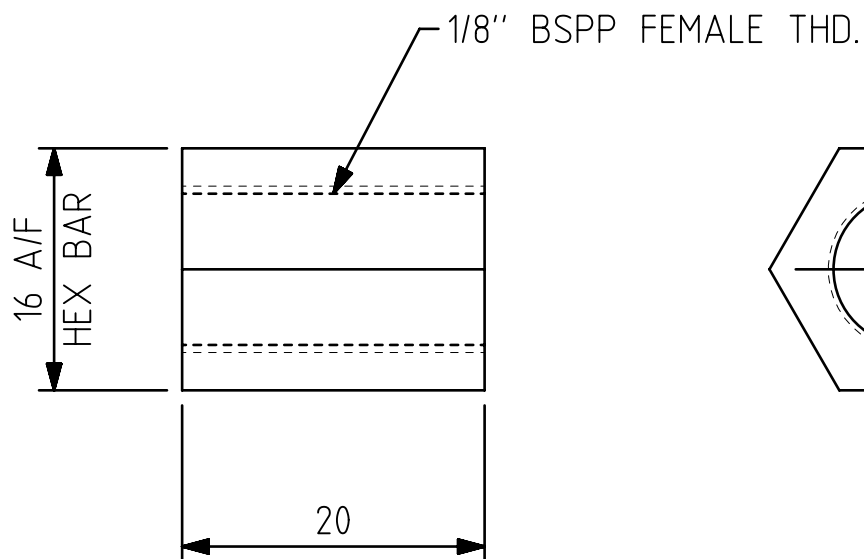
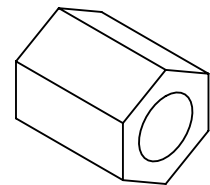
SIZE (DRG.NO.)

1209-00.240-109

WT. IN KG. : 145

SHEET 1 OF 1

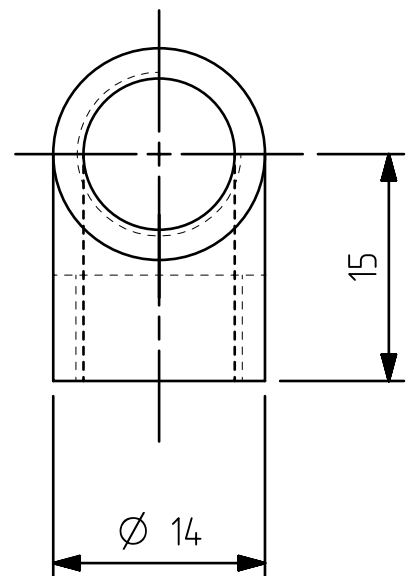
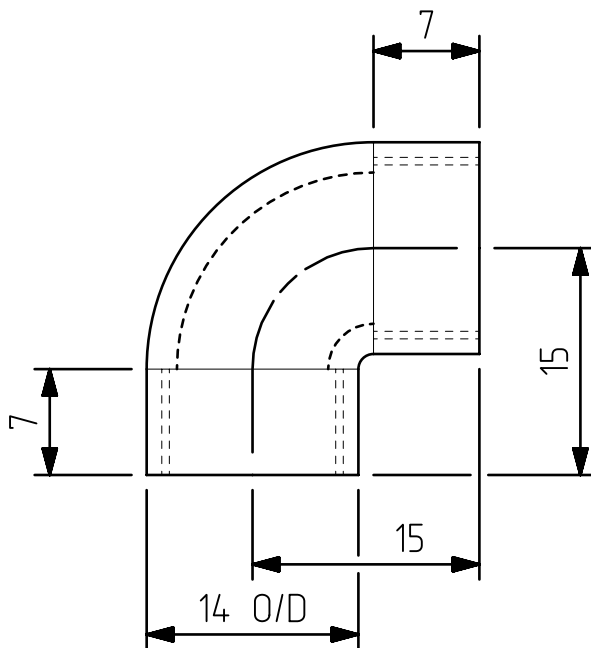
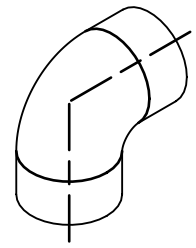
SURFACE ROUGHNESS Ra VALUES IN  $\mu\text{m}$   
 REMOVE ALL BURRS AND SHARP EDGES



1. ALL DIMENSIONS ARE IN mm
2. NEXT ASSLY. DRG. NO-1209-00.240-109
3. MATL: FORGED STAINLESS STEEL
4. SPECN.:ASTM-A182 GR. 304
5. QTY.:12 NOS.
6. USED FOR LOCO: WAG-9/WAP-7 LOCO

		CHITTARANJAN LOCOMOTIVE WORKS		
FIRST ISSUED		HEXAGONAL SOCKET 1/8" BSPP		
DRAWN BY				
CHECKED BY		1209-00.440-240		
APPROVED BY				
		SIZE	SHEET REV	
		A4	-	
		SCALE 1:1	SHEET 1 OF 1	

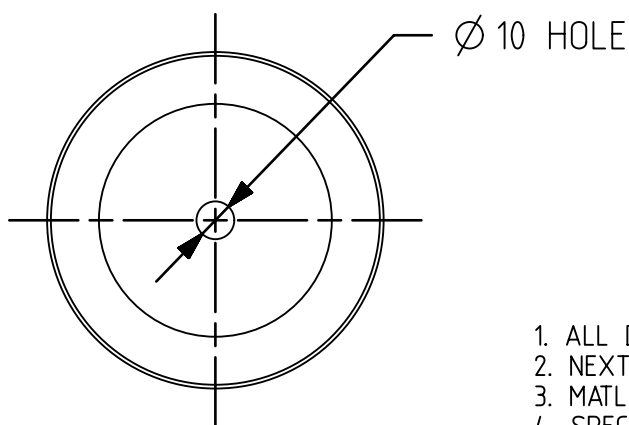
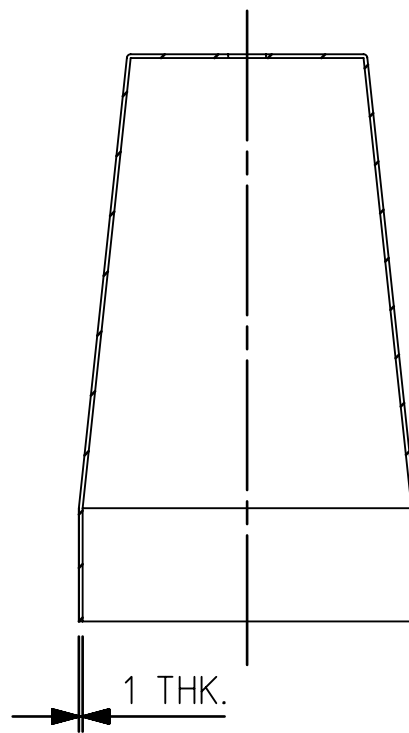
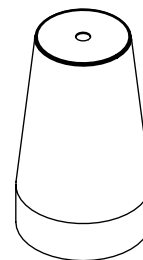
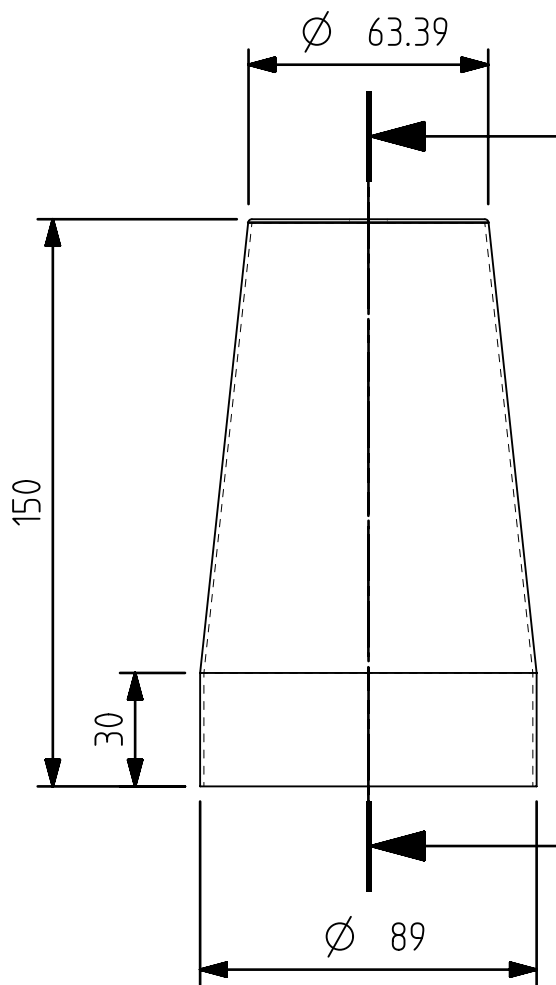
SURFACE ROUGHNESS Ra VALUES IN  $\mu\text{m}$   
 REMOVE ALL BURRS AND SHARP EDGES



1. ALL DIMENSIONS ARE IN mm
2. NEXT ASSLY. DRG. NO-1209-00.240-109
3. MATL: FORGED STAINLES STEEL
4. SPECN.:ASTM-A182 GR. 304
5. QTY.:08 NOS.
6. USED FOR LOCO WAG-9/WAP-7 LOCO

		CHITTARANJAN LOCOMOTIVE WORKS		
FIRST ISSUED		FEMALE ELBOW 1/8" BSPP		
DRAWN BY				
CHECKED BY				
APPROVED BY				
		SIZE	1209-00.440-239	SHEET REV
		A4		-
		SCALE 2:1	SHEET 1 OF 1	

SURFACE ROUGHNESS Ra VALUES IN  $\mu\text{m}$   
REMOVE ALL BURRS AND SHARP EDGES



SECTION A-A  
SCALE 1:2

1. ALL DIMENSIONS ARE IN mm
2. NEXT ASSLY. DRG. NO-1209-00.240-109
3. MATL:STAINLESS STEEL
4. SPECN.:
5. QTY.:04 NOS.
6. USED FOR LOCO: WAG-9/WAP-7 LOCO

CHITTARANJAN LOCOMOTIVE WORKS

FIRST ISSUED

DRAWN BY

CHECKED BY

APPROVED BY

DIFFUSER FOR GAS DISCHARGE

SIZE

A4

SCALE 1:2

1209-00.440-238

SHEET REV

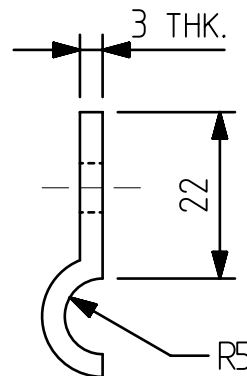
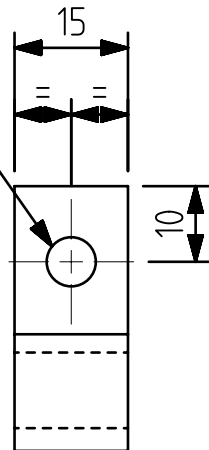
-

SHEET 1 OF 1

SURFACE ROUGHNESS Ra VALUES IN  $\mu\text{m}$   
 REMOVE ALL BURRS AND SHARP EDGES



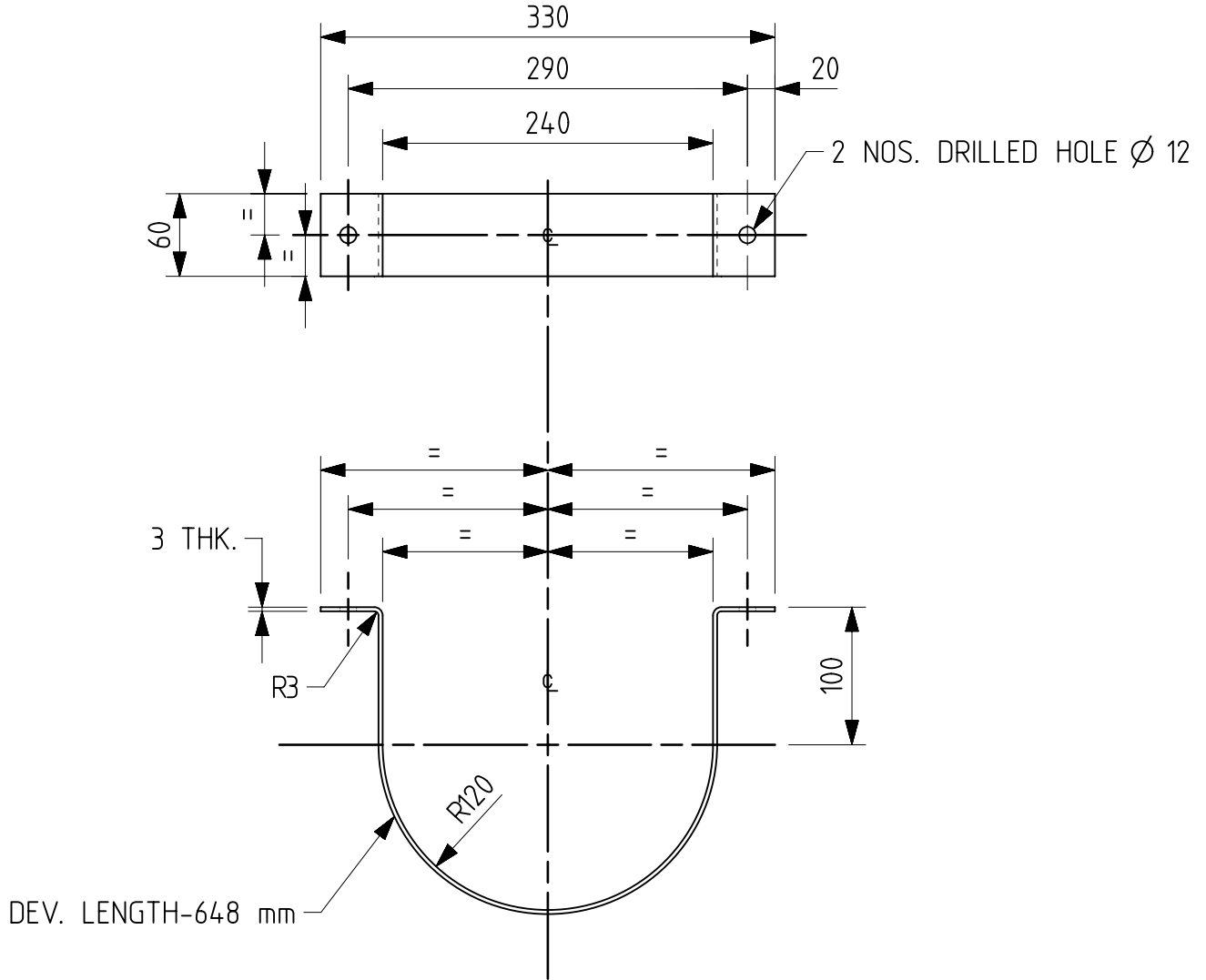
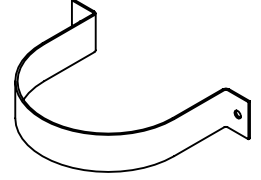
HOLE  $\varnothing$  6.5 DRILLED FOR REF.9(1209-00.240-109)










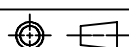
1. ALL DIMENSIONS ARE IN mm
2. NEXT ASSLY. DRG. NO-1209-00.240-109
3. MATL: STAINLES STEEL
4. SPECN.:ASTM-A240 GR. 304
5. QTY.:30 NOS.
6. USED FOR LOCO: WAG-9/WAP-7 LOCO

		CHITTARANJAN LOCOMOTIVE WORKS		
FIRST ISSUED		CLAMP FOR 10-O/D SS TUBE		
DRAWN BY				
CHECKED BY				
APPROVED BY		SIZE	1209-00.440-237	SHEET REV -
		A4		
		SCALE 1:1	SHEET 1 OF 1	

SURFACE ROUGHNESS  $R_a$  VALUES IN  $\mu m$   
REMOVE ALL BURRS AND SHARP EDGES

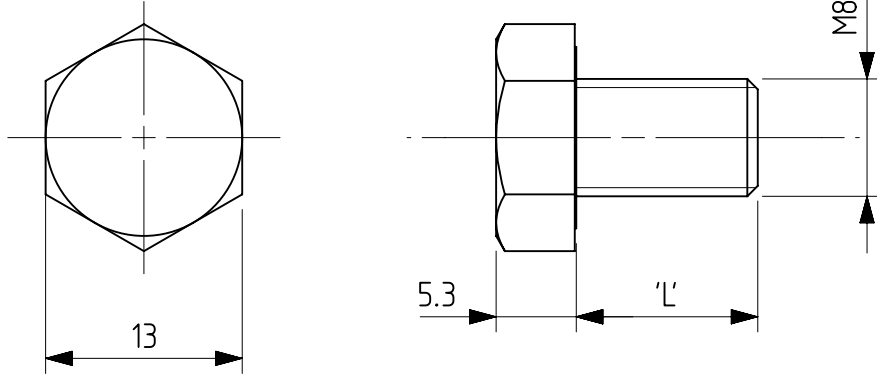
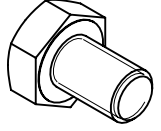


1. ALL DIMENSIONS ARE IN mm
2. NEXT ASSLY. DRG. NO-1209-00.240-109
3. C&D NO-1
4. QTY./LOCO-02 NOS.
5. USED FOR LOCO : WAG-9/WAP-7
6. UNSPECIFIED TOLERANCE IN THE DIMENSIONS MENTIONED AT DRAWINGS TO BE FOLLOWED AS PER IS:2102 (PART 1):1993-TOLERANCE CLASS-MEDIUM OF TABLE-1


												अभिकल्पित DGN			<div></div> <div>चितरंजन रेलइंजन कारखाना CHITTARANJAN LOCOMOTIVE WORKS, INDIA</div>							
												जॉचा व.अ.अ. CHD SSE										
0											पदार्थ MATL		STEEL	प्रति भार कि. ग्रा. WT. EACH IN KG		0.915						
परिवर्तन संख्या ALT.NO.		प्राधिकार AUTHY		वर्णन DESCRIPTION						दिनांकित बाधक DATED INITIAL		समीक्षित स.वि.अ. / व.वि.अ. REVIEWED AEE / SEE			विशिष्ट SPECN			IS:2062:2011 Gr.E250 Cu QUALITY-C KILLED NORMALIZED				
सतह - रक्षा का मान वा. मा. 3073 / अ. मा. सं. 1302 SURFACE ROUGHNESS VALUE TO IS:3073 / ISO:1302				अनिर्दिष्ट सद्य - सीमा वा. मा. : 2102 / अ. मा. सं. : 2768 UNSPECIFIED TOLERANCE TO IS : 2102 / ISO : 2768						TOL. CLS.		अनुमोदित स.पु.वि.अ. APPROVED DYCEE			वर्णन DESCRIPTION			HOLDING CLAMP				
				धातु-वेल्डन चिन्ह वा. मा. : 813 / अ. मा. सं. : 2553 WELDING SYMBOLS TO IS:813 / ISO:2553								दिनांक DATE										
पदांक GRADE NO.		सं1 N1	सं2 N2	सं3 N3	सं4 N4	सं5 N5	सं6 N6	सं7 N7	सं8 N8	सं9 N9	सं10 N10	सं11 N11	सं12 N12	रेखिक अनुपात SCALE		1:5	आरेखण संख्या DRAWING NO.		1209-00.440-236			
Rz		0.16-0.3	0.5-0.7	0.9-1.1	1.5-2.0	2.5-3.8	5.0-6.3	9.0-12	16-25	30-40	50-63	75-100	160-250									
Ra $\mu m$		0.025	0.05	0.1	0.2	0.4	0.8	1.6	3.2	6.3	12.5	25	50									
चिन्ह SYMBOL																	<div></div> <div>परिवर्तन संख्या ALTERATION. NO.</div>		0	पर्ण SHEET	1 OF 1	A4
												संदर्भ / REF.			ALT. -							

## ISO METRIC HIGH TENSILE PERCISION HEXAGON HEAD SET SCREW

ALL DIMENSIONS ARE IN mm



REF. NO.	DIMENSIONS
	'L'
1209-18.406-303-001	12
1209-18.406-303-002	16
1209-18.406-303-003	20
1209-18.406-303-004	25
1209-18.406-303-005	30
1209-18.406-303-006	10

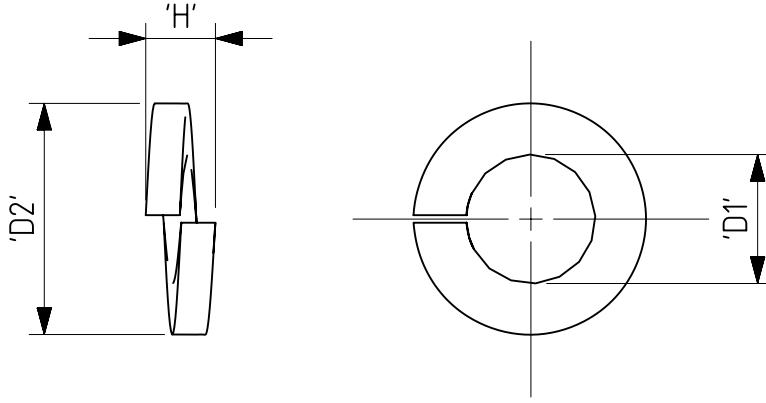
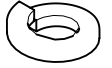
अभिकल्पित DGN		जॉचा व.अ.अ. CHD SSE		 चित्तरंजन रेलइंजन कारखाना CHITTARANJAN LOCOMOTIVE WORKS, INDIA	
पदार्थ MATL		STEEL		प्रति भार कि. ग्रा. WT. EACH IN KG	
विशिष्ट SPECN		IS:1364,PT-2			
वर्णन DESCRIPTION		SCREW HEX HD M8x1.25 Zn Pl. (Pass.)			
आरेखण संख्या DRAWING NO.		1209-18.406-303			
परिवर्तन संख्या ALTERATION. NO.		0			
पृष्ठ संख्या PAGE		1 OF 1			
A4					

0	परिवर्तन संख्या ALT.NO.	प्राधिकार AUTHY	वर्णन DESCRIPTION	दिनांकित बाह्य DATED INITIAL	समीक्षित स.वि.अ. / व.वि.अ. REVIEWED AEE / SEE	अनुमोदित उ.मु.वि.अ. APPROVED DYCEE	दिनांक DATE	रैखिक अनुपात SCALE	संदर्भ / REF. 182-00030 ALT.-2			
सतह - रूखाता का मान मा. मा. 3073 / अ. मा. सं. 1302	अनिर्दिष्ट सद्य - सीमा मा. मा. : 2102 / अ. मा. सं. : 2768	UNSPECIFIED TOLERANCE TO IS : 2102 / ISO : 2768	घातु-वेल्डन चिन्ह मा. मा. : 813 / अ. मा. सं. : 2553	WELDING SYMBOLS TO IS:813 / ISO:2553	TOL. CLS.	अनुमोदित उ.मु.वि.अ. APPROVED DYCEE	01-10-20	1:1				
पदांक GRADE NO.	सं1 N1	सं2 N2	सं3 N3	सं4 N4	सं5 N5	सं6 N6	सं7 N7	सं8 N8	सं9 N9	सं10 N10	सं11 N11	सं12 N12
Rz	0.16-0.3	0.5-0.7	0.9-1.1	1.5-2.0	2.5-3.8	5.0-6.3	9.0-12	16-25	30-40	50-63	75-100	160-250
Ra μm	0.025	0.05	0.1	0.2	0.4	0.8	1.6	3.2	6.3	12.5	25	50
चिन्ह SYMBOL												










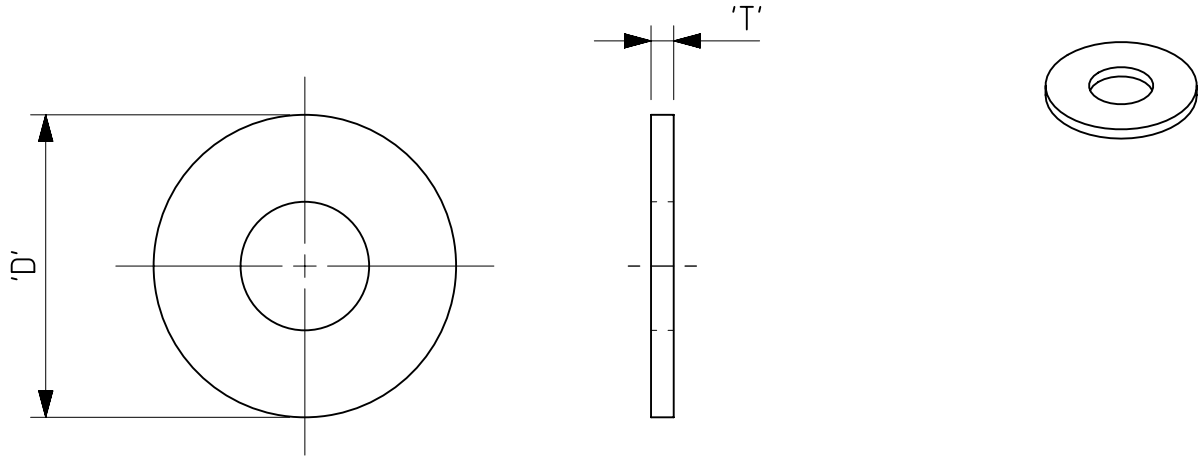
## ISO METRIC HELICAL SPRING WASHER










REF. NO.	NOM. SIZE (BOLT DIA.)	DIMENSIONS			SECTION THICKNESS
		D1'	D2'	H'	
1209-18.406-395-001	3	3.4	6.2	1.84	0.90
1209-18.406-395-002	4	4.4	7.6	2.07	1.00
1209-18.406-395-003	5	5.4	9.2	2.76	1.30
1209-18.406-395-004	6	6.5	11.8	3.68	1.70
1209-18.406-395-005	8	8.6	14.9	4.60	2.10
1209-18.406-395-006	10	10.7	18.1	5.06	2.35
1209-18.406-395-007	12	12.7	21.1	5.75	2.65
1209-18.406-395-008	14	14.7	24.1	6.90	3.15
1209-18.406-395-009	16	17.0	27.4	8.05	3.70
1209-18.406-395-010	20	21.2	33.6	9.20	4.20
1209-18.406-395-011	24	25.5	40.0	11.50	5.20
1209-18.406-395-012	33	33.5	55.2	12	6
1209-18.406-395-013	36	36.5	58.2	13.6	6

परिवर्तन संख्या ALT.NO.		प्राधिकार AUTHY		वर्णन DESCRIPTION		दिनांकित बाह्य DATED INITIAL		अभिलेखित DGN		 चित्तरंजन रेलइंजन कारखाना CHITTARANJAN LOCOMOTIVE WORKS, INDIA	
सतह - रूखाता का मान या. मा. 3073 / अ. मा. सं. 1302		अनिर्दिष्ट सद्य - सीमा या. मा. : 2102 / अ. मा. सं. : 2768		TOL. CLS.		अनुमोदित स.मु.वि.अ.		स.वि.अ. / व.वि.अ. CHD SSE RAJEEV KUMAR Digitally signed by RAJEEV KUMAR Date: 2021.11.22 16:52:45+05'30'		पदार्थ MATL STEEL प्रति भार कि. ग्रा. WT. EACH IN KG	
SURFACE ROUGHNESS VALUE TO IS:3073 / ISO:1302		धातु-वेल्डन चिन्ह या. मा. : 813 / अ. मा. सं. : 2553		WELDING SYMBOLS TO IS:813 / ISO:2553		APPROVED DYCEE		स.वि.अ. / व.वि.अ. Pradeep Khatana Digitally signed by Pradeep Khatana Date: 2021.12.22 21:16:52+05'30'		विशिष्ट SPECN IS:3063	
पदार्थ		सं1		सं2		सं3		सं4		वर्णन DESCRIPTION HELICAL SPRING WASHER ZINC PLATED (PASSIVATED)	
GRADE NO.		N1		N2		N3		N4		आरेखण संख्या DRAWING NO. 1209-18.406-395	
Rz		0.16-0.3		0.5-0.7		0.9-1.1		1.5-2.0		परिवर्तन संख्या ALTERATION. NO.	
Ra μm		0.025		0.05		0.1		0.2		पर्ण SHEET 1 OF 1	
SYMBOL										संदर्भ / REF. 182-00045 ALT. - 1	

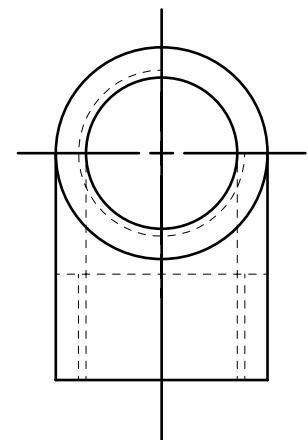
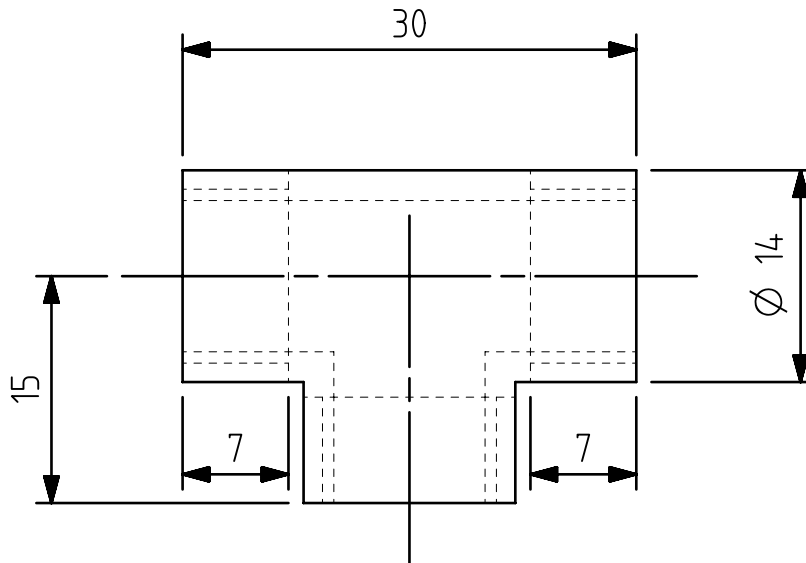
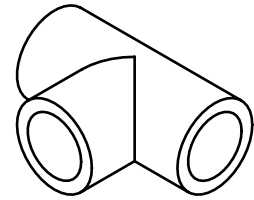
ALL DIMENSIONS ARE IN mm.

SURFACE ROUGHNESS Ra VALUES IN  $\mu\text{m}$ 

REF. NO.	DIMENSIONS	
	'D'	'T'
1209-18.406-402-001	4	0.3
1209-18.406-402-002	5	0.3
1209-18.406-402-003	6.5	0.5
1209-18.406-402-004	7	0.5
1209-18.406-402-005	9	0.8
1209-18.406-402-006	10	1
1209-18.406-402-007	12.5	1.6
1209-18.406-402-008	17	1.6
1209-18.406-402-009	21	2
1209-18.406-402-010	24	2.5
1209-18.406-402-011	30	3
1209-18.406-402-012	37	3
1209-18.406-402-013	44	4
1209-18.406-402-014	56	4
1209-18.406-402-015	66	5
1209-18.406-402-016	78	7
1209-18.406-402-017	92	8
1209-18.406-402-018	105	9
1209-18.406-402-019	115	9
1209-18.406-402-020	125	10
1209-18.406-402-021	140	12
1209-18.406-402-022	160	12

परिवर्तन संख्या ALT.NO.		प्राधिकार AUTHY		वर्णन DESCRIPTION		दिनांकित बाह्य DATED INITIAL		अभिलेखित DGN		जॉचा व.अ. CHD SSE		 चितरंजन रेलइंजन कारखाना CHITTARANJAN LOCOMOTIVE WORKS, INDIA		पदार्थ MATL		प्रति भार कि. ग्रा. WT. EACH IN KG							
सतह - रक्षाता का मान मा. 3073 / अ. मा. सं. 1302		अनिर्दिष्ट सद्य - सीमा मा. : 2102 / अ. मा. सं. : 2768		UNSPECIFIED TOLERANCE TO IS : 2102 / ISO : 2768		TOL. CLS.		समीक्षित स.वि.अ. / व.वि.अ. REVIEWED AEE / SEE		अनुमोदित उ.यु.वि.अ. APPROVED DYCEE		MANAS KUMAR CHATTERJEE Digitally signed by MANAS KUMAR CHATTERJEE DN: cn=2023.11.07 17:23:53 +05'30'		वर्णन SPECN		IS:2016							
सतह - रक्षाता का मान मा. 3073 / अ. मा. सं. 1302		अनिर्दिष्ट सद्य - सीमा मा. : 813 / अ. मा. सं. : 2553		WELDING SYMBOLS TO IS:813 / ISO:2553		TOL. CLS.		दिनांक DATE		11-09-23		वर्णन DESCRIPTION		WASHER MACHINED Zn Pl (Pass)									
पदांक GRADE NO.		सं1 N1	सं2 N2	सं3 N3	सं4 N4	सं5 N5	सं6 N6	सं7 N7	सं8 N8	सं9 N9	सं10 N10	सं11 N11	सं12 N12	रैखिक अनुपात SCALE		1:1		आरेखण संख्या DRAWING NO.		1209-18.406-402			
Rz		0.16-0.3	0.5-0.7	0.9-1.1	1.5-2.0	2.5-3.8	5.0-6.3	9.0-12	16-25	30-40	50-63	75-100	160-250	संदर्भ / REF.		ALT -		परिवर्तन संख्या ALTERATION. NO.		पृष्ठ SHEET		1 OF 1	A4
चिन्ह SYMBOL																							

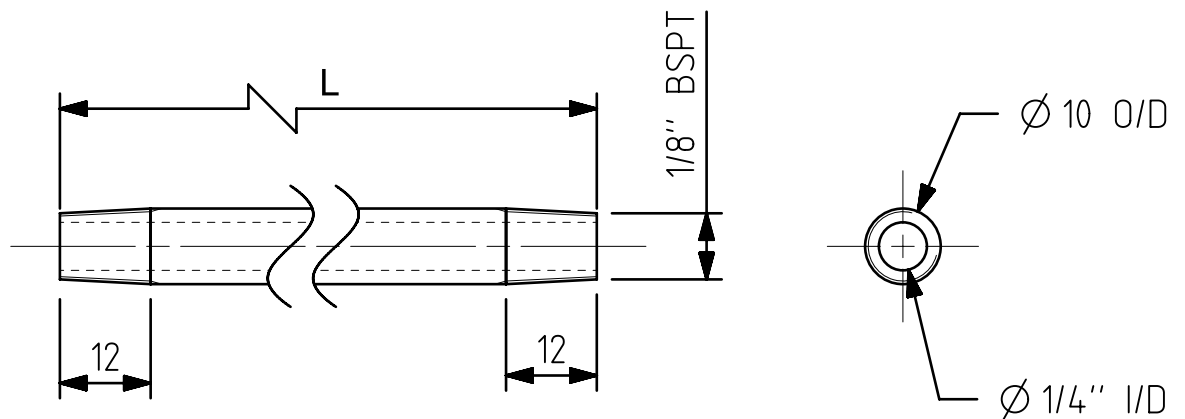
SURFACE ROUGHNESS Ra VALUES IN  $\mu\text{m}$   
 REMOVE ALL BURRS AND SHARP EDGES



1. ALL DIMENSIONS ARE IN mm
2. NEXT ASSLY. DRG. NO-1209-00.240-109
3. MATL: FORGED STAINLES STEEL
4. SPECN.:ASTM-A182 GR. 304
5. QTY.:05 NOS.
6. USED FOR LOCO: WAG-9/WAP-7 LOCO

		CHITTARANJAN LOCOMOTIVE WORKS			
FIRST ISSUED		EQUAL TEE 1/8"BSPP X 1/8" BSPP X 1/8" BSPP			
DRAWN BY					
CHECKED BY					
APPROVED BY		SIZE	1209-00.440-241		SHEET REV -
		A4			
		SCALE 2:1	SHEET 1 OF 1		

SURFACE ROUGHNESS  $R_a$  VALUES IN  $\mu m$   
REMOVE ALL BURRS AND SHARP EDGES



10	450	1209-00.440-242-010	4
9	90	1209-00.440-242-009	3
8	150	1209-00.440-242-008	2
7	2610	1209-00.440-242-007	1
6	3700	1209-00.440-242-006	1
5	2650	1209-00.440-242-005	2
4	2750	1209-00.440-242-004	1
3	2860	1209-00.440-242-003	1
2	1630	1209-00.440-242-002	1
1	3310	1209-00.440-242-001	2
SL.NO.	LENGTH OF PIPE(L) IN mm	DRG.NO.	QTY./LOCO.
CHART FOR ALL SIZE OF PIPE			

NOTE:

450mm PIPE SHALL BE BEND AT 20° AT ONE END

1. ALL DIMENSIONS ARE IN mm
2. NEXT ASSLY. DRG. NO-1209-00.240-109
3. MATL.:STAINLESS STEEL
4. SPECN.:ASTM-A209 GR.304
5. USED FOR LOCO:WAG-9HC/WAP-7

		CHITTARANJAN LOCOMOTIVE WORKS	
FIRST ISSUED			
DRAWN BY			
CHECKED BY		SS TUBE 10-O/D X 1/4" I/D X 1/8"BSPT	
APPROVED BY		SIZE	SHEET REV
		A4	1209-00.440-242
		SCALE 1:1	SHEET 1 OF 1