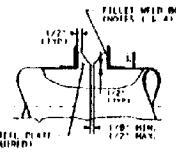


STANDARD TEST HEAD
FREE FLANGE FOR TEST PRESSURES, CR.21

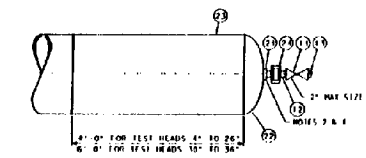


DETAIL 1 WELDER MARK
WELDER MARK IS POSITIONED ON 4\"/>



DETAIL 2 TEST HEAD IDENTIFICATION TAG CR.24

THE TEST HEAD IDENTIFICATION TAG IS TO BE TACK WELDED TO A CORSE FITTING COLLAR INSTALLED AROUND THE PIPE NEARBY. THE TAG MUST CONTAIN THE FOLLOWING INFORMATION:
TEST HEAD SERIAL NUMBER
MAXIMUM TEST PRESSURE RATING
GRADE, SIZE AND WALL THICKNESS OF PIPE
DATE TESTED TO 300 PSIG.



SHORT TEST HEAD
FREE FLANGE FOR TEST PRESSURES, CR.21

FABRICATION NOTES:

- WELDING SHALL BE IN ACCORDANCE WITH GAS STANDARD D-27. PARTICULAR ATTENTION SHALL BE GIVEN TO THE FOLLOWING ITEMS:
 - DO NOT WELD ANY MELTING OR LOW HYDROGEN WELDING PROCESS SHALL BE USED WHEN WELD THICKNESS OF THE TEST HEAD MATERIAL EXCEEDS 0.500\"/>
- THE TEST HEAD SHALL BE STRESS RELIEVED WHEN THE TEST HEAD MATERIAL IS 0.500\"/>
- DO NOT BENDATE NIPPLES OR REPAIRING PARTS EXCEED 90° TO ANY WELD OR TO EACH OTHER.
- REPAIRING PARTS SHALL BE CONSTRUCTED BY THE MANUFACTURER OR RESPONSIBLE WITH GAS STANDARD A-50. NOTE FOR 3\"/>
- ALL FIFTH WELDS ARE TO BE RADIOGRAPHICALLY INSPECTED.
- ALL FIFTH WELDS MUST BE VISUALLY INSPECTED BY A QUALIFIED COMPANY INSPECTOR.
- THE TEST HEAD MUST BE PROVED HYDROSTATICALLY TESTED TO A MINIMUM OF 300 PSIG AND A MAXIMUM OF 400 PSIG FOR A MINUTE BEFORE BEING USED. IF TEST PRESSURE EXCEEDS 3740 PSIG, MAXIMUM TEST PRESSURE FOR PIPE SHALL BE 400 PSIG. ALL BALL VALVES & FLANGES MUST NOT BE CONNECTED TO THE TEST HEAD DURING THIS HYDROSTATIC TEST. IF TEST PRESSURE EXCEEDS 4000 PSIG, MAXIMUM TEST PRESSURE FOR BALL VALVES, ALL BALL AND FLANGES MUST NOT BE CONNECTED TO THE TEST HEAD DURING THIS HYDROSTATIC TEST. TEST HEAD NIPPLES ITEM 77 MUST HAVE ADDITIONAL LENGTH TO ALLOW FOR CAPS TO BE INSTALLED DURING THE TEST.
- THE FOLLOWING INFORMATION MUST BE OBTAINED IN THE GENERAL CONSTRUCTION GAS CONSTRUCTION OFFICE, AND THE TYPE OF EACH TEST HEAD:
 - ALL PURCHASING DOCUMENTS, INCLUDING PHYSICAL AND CHEMICAL TEST REPORTS, FOR ORIGINAL AND RETESTS.
 - ALL CONSTRUCTION TEST PRESSURE REPORTS FOR THE TEST HEAD, BOTH ORIGINAL AND RETESTS.
 - ALL RADIOGRAPHIC INSPECTION REPORTS, BOTH ORIGINAL AND RETESTS.
- GAS SYSTEM DESIGN DEPARTMENT MUST BE CONSULTED FOR ANY DEVIATIONS FROM THIS DRAWING.
- ALL PIPING TEST HEADS SHALL BE BUILT BY THE GENERAL CONSTRUCTION GAS CONSTRUCTION DEPARTMENT.
- THE PIPE USED TO FABRICATE TEST HEADS MUST MEET API 5L SPECIFICATIONS. THE CAPS USED TO FABRICATE TEST HEADS MUST HAVE THE SAME GRADE AND WALL THICKNESS AS THE PIPE USED.
- PROOF TEST PRESSURE AT 300 TO 400 PSIG AND MAXIMUM ALLOWABLE TEST PRESSURE MUST BE RECORDED FOR ALL CAPS OR WALL THICKNESS DATA THAN THOSE SPECIFIED IN THIS DRAWING IN ACCORDANCE WITH PG&E, SEE NOTES A, B, & C.
- PAINT ALL BARE METAL SURFACES WITH EPIC NO. 50 PRIMER PER GAS STANDARD 7.1.

GENERAL NOTES:

- WHEN WELDING A TEST HEAD TO A PIPE WITH A DIFFERENT GRADE, A WELDING PROCEDURE QUALIFIED FOR JOINING THE TWO GRADES MUST BE USED.
- A VISUAL INSPECTION FOR DAMAGE MUST BE MADE ON EACH TEST HEAD PRIOR TO ITS USE AND ANY DAMAGE MUST BE REPAIRED. THE RETURN OF SOME TYPES OF DAMAGE WILL REQUIRE A REPAIR IF FOLLOWING HYDROSTATIC TEST OF THE TEST HEAD TO 300 PSIG. THE DECISION TO REHYDROSTATIC TEST MUST BE MADE BY THE TEST SUPERVISOR AND CARRIED THROUGH THE GENERAL OFFICE, GENERAL CONSTRUCTION GAS CONSTRUCTION.
- IF THE WALL THICKNESS OF THE PIPE TO BE TESTED IS NOT WITHIN 3/32\"/>

REFERENCES:

TEST HEAD SKIN DETAILS: 386527



NO.	DESCRIPTION	DATE	BY	CHKD.	APP'D.
1	ISSUED FOR FABRICATION	11/15/57	JAC	FAL	PCN
2	REVISION				
3	REVISION				

PIPING-DETAILS
PRELIM TEST HEAD
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA
386527

BILL OF MATERIAL

ITEM NO.	DESCRIPTION	QTY	REMARKS	UNIT COST
1	PIPE, STEEL, 10" DIA., 12000 PSI	2		01 4837
2	FLANGES, METAL, 10" DIA., 12000 PSI	4		01 4837
3	WELDS, METAL, 10" DIA., 12000 PSI	4		01 4837
4	PIPE, STEEL, 8" DIA., 12000 PSI	2		01 4837
5	FLANGES, METAL, 8" DIA., 12000 PSI	4		01 4837
6	WELDS, METAL, 8" DIA., 12000 PSI	4		01 4837
7	PIPE, STEEL, 6" DIA., 12000 PSI	2		01 4837
8	FLANGES, METAL, 6" DIA., 12000 PSI	4		01 4837
9	WELDS, METAL, 6" DIA., 12000 PSI	4		01 4837
10	PIPE, STEEL, 4" DIA., 12000 PSI	2		01 4837
11	FLANGES, METAL, 4" DIA., 12000 PSI	4		01 4837
12	WELDS, METAL, 4" DIA., 12000 PSI	4		01 4837
13	PIPE, STEEL, 2" DIA., 12000 PSI	2		01 4837
14	FLANGES, METAL, 2" DIA., 12000 PSI	4		01 4837
15	WELDS, METAL, 2" DIA., 12000 PSI	4		01 4837
16	PIPE, STEEL, 1" DIA., 12000 PSI	2		01 4837
17	FLANGES, METAL, 1" DIA., 12000 PSI	4		01 4837
18	WELDS, METAL, 1" DIA., 12000 PSI	4		01 4837
19	PIPE, STEEL, 1/2" DIA., 12000 PSI	2		01 4837
20	FLANGES, METAL, 1/2" DIA., 12000 PSI	4		01 4837
21	WELDS, METAL, 1/2" DIA., 12000 PSI	4		01 4837
22	PIPE, STEEL, 3/4" DIA., 12000 PSI	2		01 4837
23	FLANGES, METAL, 3/4" DIA., 12000 PSI	4		01 4837
24	WELDS, METAL, 3/4" DIA., 12000 PSI	4		01 4837

MIN. PIPE LENGTH	MIN. TEST HEAD (INCHES)	MIN. TEST HEAD (FEET)	MATERIAL SPECIFICATION CHART		MAX. PRESSURE RATING FOR TEST HEAD		PROVE TEST PRESSURE FOR TEST HEAD (AMPIE S)	
			PIPE SIZE (INCH)	WALL THICKNESS (INCH)	MIN. DIMENSION (INCH)	MAX. DIMENSION (INCH)	MIN. TEST PRESSURE (PSI)	MAX. TEST PRESSURE (PSI)
10	10	10	12	0.1875	12	12	2100	1400
15	15	15	18	0.2500	18	18	2100	1400
20	20	20	24	0.3125	24	24	2100	1400
25	25	25	30	0.3750	30	30	2100	1400
30	30	30	36	0.4375	36	36	2100	1400
35	35	35	42	0.5000	42	42	2100	1400
40	40	40	48	0.5625	48	48	2100	1400
45	45	45	54	0.6250	54	54	2100	1400
50	50	50	60	0.6875	60	60	2100	1400
55	55	55	66	0.7500	66	66	2100	1400
60	60	60	72	0.8125	72	72	2100	1400
65	65	65	78	0.8750	78	78	2100	1400
70	70	70	84	0.9375	84	84	2100	1400
75	75	75	90	1.0000	90	90	2100	1400
80	80	80	96	1.0625	96	96	2100	1400
85	85	85	102	1.1250	102	102	2100	1400
90	90	90	108	1.1875	108	108	2100	1400
95	95	95	114	1.2500	114	114	2100	1400
100	100	100	120	1.3125	120	120	2100	1400

NOTES:
 1. THE MAXIMUM PROVE TEST PRESSURE IS DETERMINED BY THE MAXIMUM ALLOWABLE SHELL TEST PRESSURE OF AMPIE S FOR A 2" DIA. 12000 PSI RATED STEEL PIPE. SEE AMPIE S DRAWING FOR TEST HEAD AT THIS PRESSURE. SEE ALSO
 2. THE MAXIMUM PROVE TEST PRESSURE IS DETERMINED BY THE MAXIMUM ALLOWABLE SHELL TEST PRESSURE OF AMPIE S FOR AN 8" DIA. 12000 PSI RATED STEEL PIPE. SEE AMPIE S DRAWING FOR TEST HEAD AT THIS PRESSURE. SEE ALSO
 3. THE MAXIMUM PROVE TEST PRESSURE IS DETERMINED BY THE MAXIMUM ALLOWABLE SHELL TEST PRESSURE OF AMPIE S FOR A 12" DIA. 12000 PSI RATED STEEL PIPE. SEE AMPIE S DRAWING FOR TEST HEAD AT THIS PRESSURE. SEE ALSO

REVISIONS
 1. MATERIAL REQUIRED FOR STANDARD TEST HEAD 12" TO 120"
 2. MATERIAL REQUIRED FOR STANDARD TEST HEAD 14" TO 164"
 3. MATERIAL REQUIRED FOR STANDARD TEST HEAD 18" TO 180"
 4. MATERIAL REQUIRED FOR STANDARD TEST HEAD 24" TO 240"
 ** SEE MATERIAL SPEC CHART

NOTES:
 SEE DRAWING NO. 104527, SHEET 1.



PIPING-DETAILS
 PIPELINE TEST HEAD
 PACIFIC GAS AND ELECTRIC COMPANY
 SAN FRANCISCO, CALIFORNIA
 386527