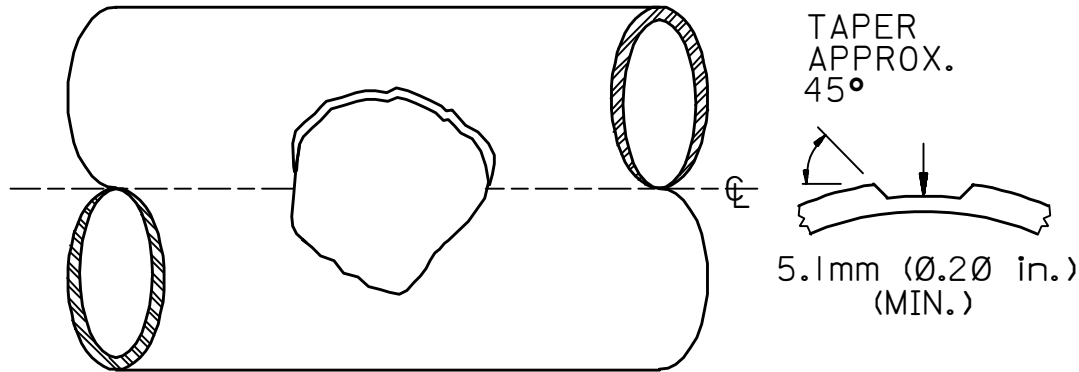
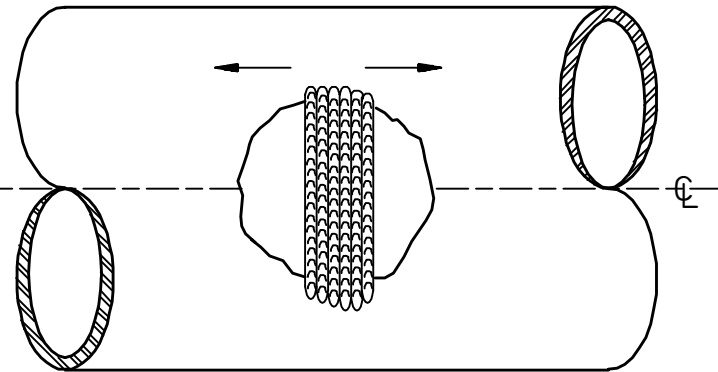


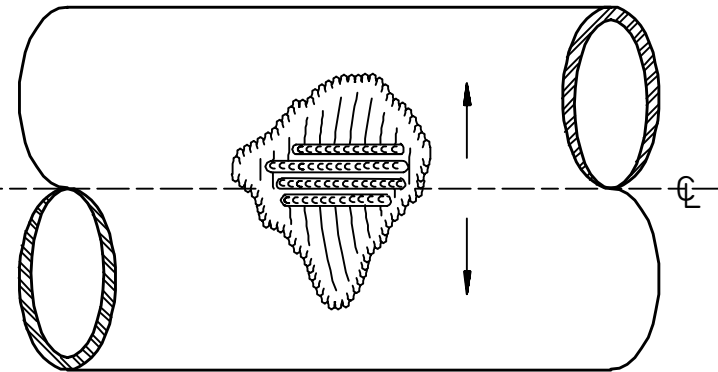
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PLANT NO.	INDEX	DRAWING NUMBER	SHT. NO.	REV. NO.



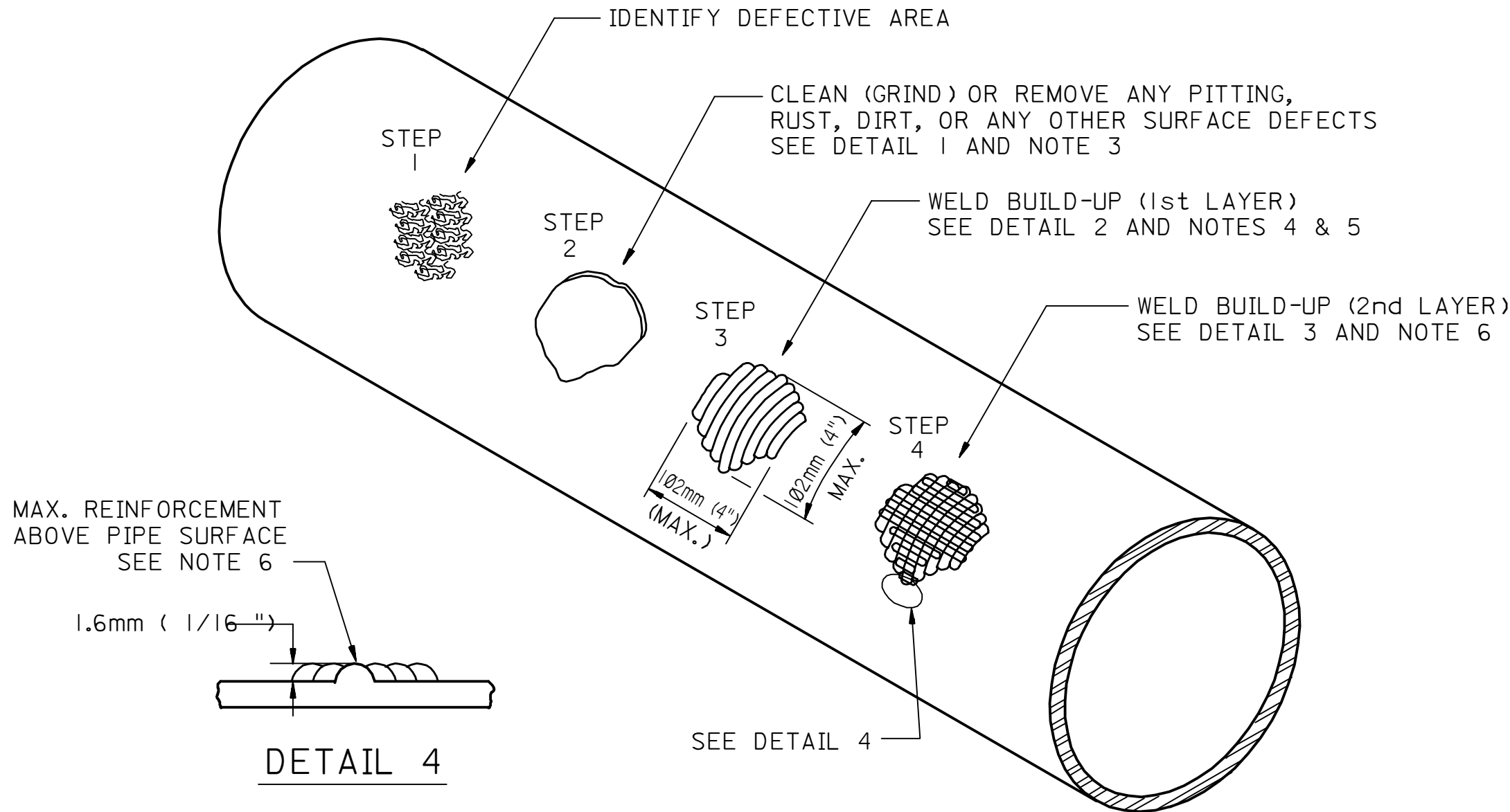
DETAIL 1



DETAIL 2



DETAIL 3



DETAIL 4

NOTES:

REPAIR NOTES

1. THIS METHOD OF REPAIR MAY BE USED ON PIPE AND FITTINGS SUFFERING GOUGES, GROOVES, AND SMALL AREAS WITH MINIMUM WALL VIOLATIONS CAUSED BY EXTERNAL CORROSION OR EXCESSIVE GRINDING. REFER TO G.I. 434.000, PARA. 3.4.5.3.
2. THE MAXIMUM INDIVIDUAL AREA OF REPAIR SHALL NOT EXCEED 102mm (4in.) IN LENGTH OR WIDTH. INDIVIDUAL REPAIR AREAS SHALL BE SEPARATED FROM EACH OTHER BY A MINIMUM OF 102mm (4in.) IN ANY DIRECTION. AS A MINIMUM AREA, THE DEPOSITED WELD BUILD-UP SHALL BE AT LEAST 3 PASSES WIDE AND 50mm (2in.) LONG.
3. PRIOR TO WELDING, THE DEFECTIVE AREA SHALL BE CLEANED AND GROUND TO SOUND METAL TO REMOVE ANY DIRT, PITTING, RUST, OR ANY SURFACE DEFECTS THAT MIGHT BECOME ENTRAPPED IN THE WELD AND AFFECT THE SOUNDNESS OF THE REPAIR. THE MINIMUM REMAINING PIPE WALL THICKNESS SHALL NOT BE LESS THAN 5.1mm (0.20in.).
4. ALL WELDING SHALL BE MADE USING LOW HYDROGEN ELECTRODES IN ACCORDANCE WITH SAUDI ARAMCO WELDING PROCEDURE SPECIFICATION (WPS) PL-RI AND PL-R2. ALL WELDS SHALL BE OVERLAPPING STRINGER BEADS. NO WEAVING IS ALLOWED. REFER TO G.I. 434.000 FOR ADDITIONAL MANDATORY WELDING AND SAFETY REQUIREMENTS.
5. THE IDEAL DIRECTION OF WELDING IS PERPENDICULAR TO THE AXIS OF THE PIPE. FOLLOW THE WELDING SEQUENCES AS SHOWN IN THE DRAWING.
6. THE SECOND WELD BUILD-UP LAYER SHALL BE OVERLAPPING AND PERPENDICULAR TO THE FIRST LAYER. CONTINUE DEPOSITING ADDITIONAL WELD BUILD-UP LAYERS, ALTERNATING STEPS 3 AND 4, UNTIL THE WELD BUILD-UP IS FLUSH WITH THE SURFACE. THE MAXIMUM EXCESSIVE WELD METAL BUILD-UP ABOVE THE CONTOUR OF THE PIPE OR FITTING SURFACE SHALL NOT EXCEED 1.6mm (1/16 in.) IT IS PREFERABLE TO HAVE THE COMPLETED WELD BUILD-UP GROUND FLUSH WITH THE ORIGINAL SURFACE. IN ANY CASE, THE WELD BUILD-UP SURFACE SHALL BE FREE OF ANY DEFECTS THAT MAY BE REVEALED BY A MANDATORY POST WELD MAGNETIC PARTICLE OR LIQUID PENETRANT (M.T. OR P.T.) INSPECTION.

TYPICAL INSTALLATION DRAWING

REV. NO.	DATE	BY	JO/EWO	DESCRIPTION	CHKD.	CERT.	APPD.

SAUDI ARABIAN OIL COMPANY

DRAWN BY ESSD/RVV CHECKED BY _____ SCALE NONE
DATE STARTED 06-15-92 DATE COMPLETED _____
OPR'G. DEPT. _____ ENG. DEPT. _____
APP'D FOR CONSTR. _____

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION OR FOR ORDERING MATERIAL UNTIL CERTIFIED AND DATED
CERTIFIED BY _____ DATE _____

WELD METAL BUILD-UP
FOR THE REPAIR OF PIPELINE
SURFACE DEFECTS

STD. DWG.

PLANT NO.	INDEX	DRAWING NUMBER	SHT. NO.	REV. NO.
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