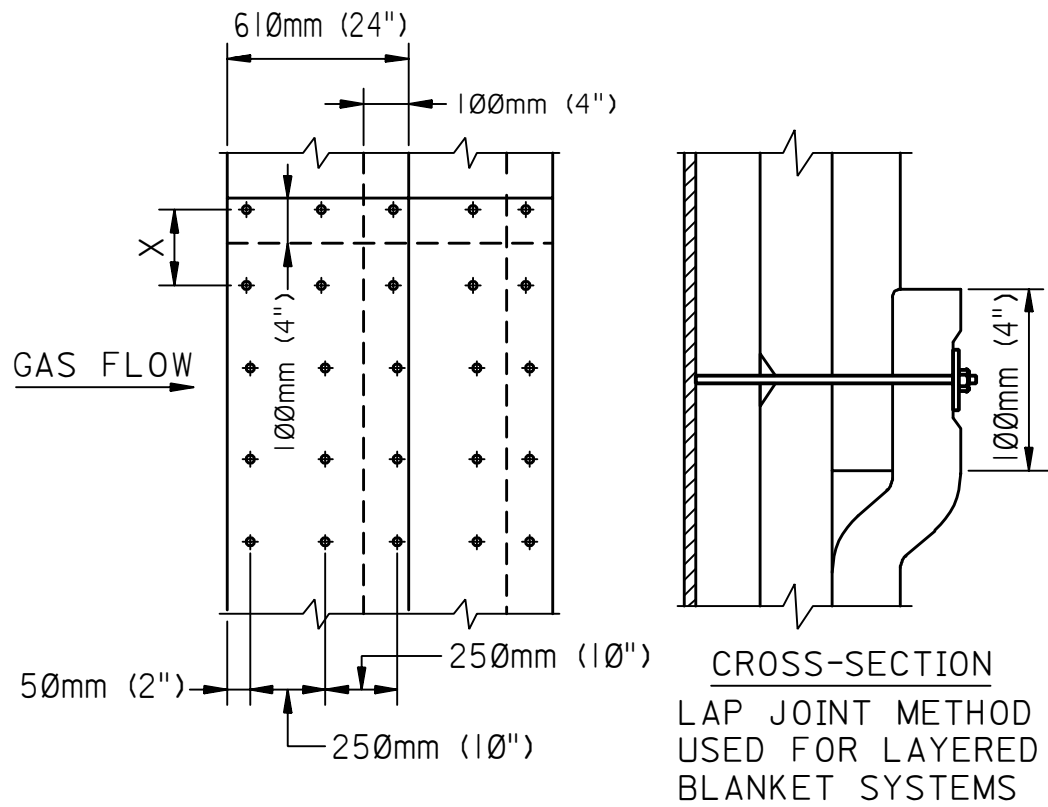
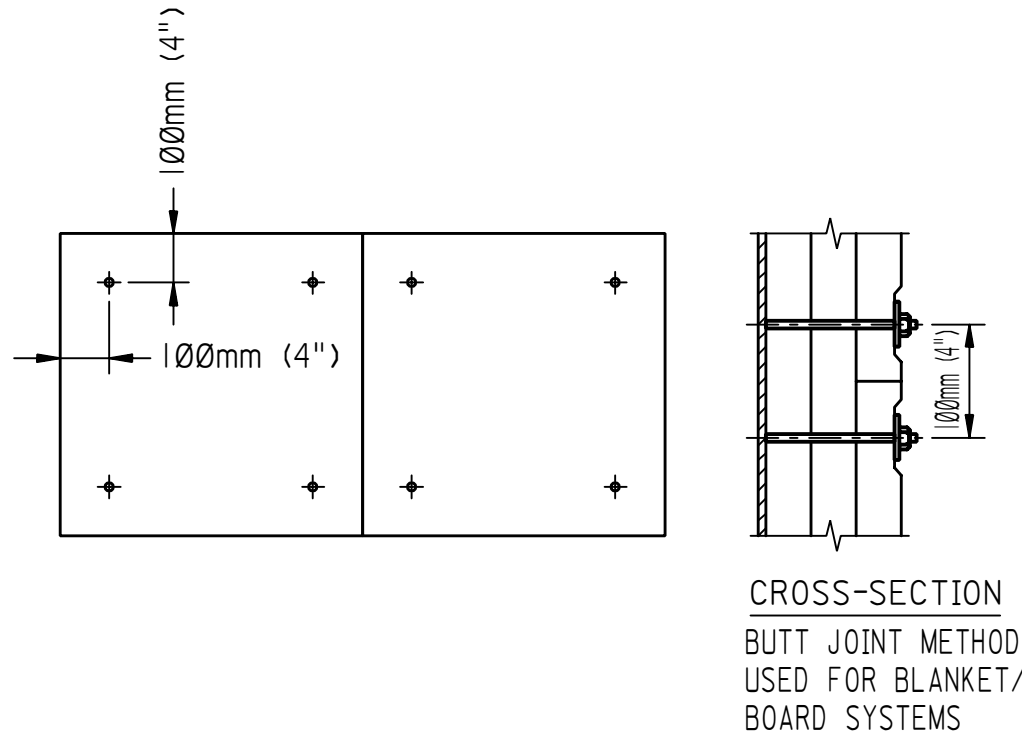


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PLANT NO.	INDEX	DRAWING NUMBER	REV. NO.	REV. NO.

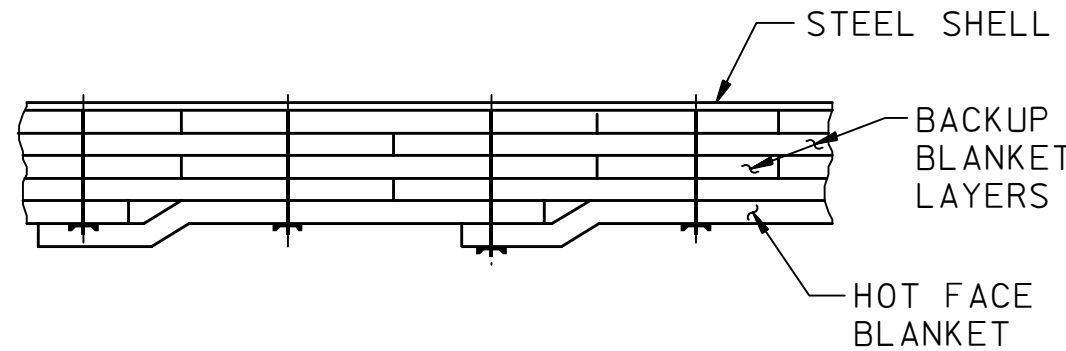
DETAIL 1
LAYERED BLANKET ANCHOR PLACEMENT,
JOINT CONSTRUCTION



DETAIL 2
BLANKET/BOARD ANCHOR PLACEMENT
JOINT CONSTRUCTION



DETAIL 3
STAGGERED JOINTS



GENERAL NOTES:

- DESIGN AND INSTALLATION IS TO BE IN ACCORDANCE WITH SAES-N-100 AND SAES-N-140.
- LAYERED BLANKET INSTALLATION SHALL BE USED UP TO 1090°C (2000°F) MAXIMUM.
- PRIOR TO WELDING MODULE ANCHORS, OIL, GREASE AND DIRT SHALL BE REMOVED FROM THE STEEL SHELL BY SOLVENT WASHING (SSPC-SP1). THE STEEL SHALL BE POWER TOOL CLEANED (SSPC-SP3/NACE NO. 4) OR SANDBLASTED (COMMERCIAL FINISH, SSPC-SP6/NACE NO. 3).
- ALL STUD WELDS MUST BE MADE PRIOR TO COATING THE SURFACE. ANCHORS SHALL ALL BE ORIENTED THE SAME DIRECTION SO THAT LOCKING WASHERS WILL ALL BE ORIENTED ALIKE WHEN THEY ARE LOCKED IN PLACE.
- PRIOR TO COATING, ALL ANCHORS MUST BE PROTECTED BY COVERING THEM WITH TUBES, SUCH AS STRAWS, OTHERWISE THE COATING CAN GUM-UP THE ANCHOR THREADS.
- PRIOR TO INSTALLATION COAT CASING WITH A VAPOR BARRIER (KALSTALIC, WITCO CORP. OR APPROVED EQUAL). THE DRY FILM THICKNESS SHALL BE 1/16 TO 1/8. FOLLOW THE MANUFACTURER'S RECOMMENDATIONS REGARDING APPLICATION METHODS. RCF MAYBE INSTALLED WHEN THE COATING IS DRY-TO-TOUCH.

DETAIL 4: USE OF SPEED CLIPS

- IN OVERHEAD BLANKET AND BLANKET / BOARD INSTALLATIONS, SPEED CLIPS SHALL BE USED TO HOLD THE BLANKET LAYERS IN PLACE.
- SPEED CLIPS SHALL BE USED ON A MINIMUM OF EVERY FOUR ANCHORS ON EACH BLANKET LAYER.
- HEAVY RUBBER BANDS, SPANNED BETWEEN ANCHORS, CAN BE USED AS AN ALTERNATE WAY OF HOLDING THE BLANKET.
- WHERE CUPLOCKS ARE USED, RUBBER BANDS MUST BE USED FOR THE LAYERS WITHIN 75mm (3") OF THE HOT FACE SPEED CLIPS WOULD INTERFERE WITH PROPER PLACEMENT OF THE CUPLOCKS. (SEE ALSO DETAIL 8)

DETAIL 5: CORNER DETAILS, LAYERED BLANKET SYSTEMS

- THESE DETAILS SHALL BE USED FOR CORNERS IN LAYERED BLANKET SYSTEMS.

DETAIL 6: CORNER DETAILS, BLANKET / BOARD SYSTEMS

- THESE DETAILS SHALL BE USED FOR CORNERS IN BLANKET / BOARD SYSTEMS.

DETAIL 7: COVERING ANCHOR ENDS

- ALL ANCHOR ENDS IN LAYERED BLANKET AND BLANKET BOARD SYSTEMS SHALL BE COVERED TO PROTECT THEM FROM OXIDATION.

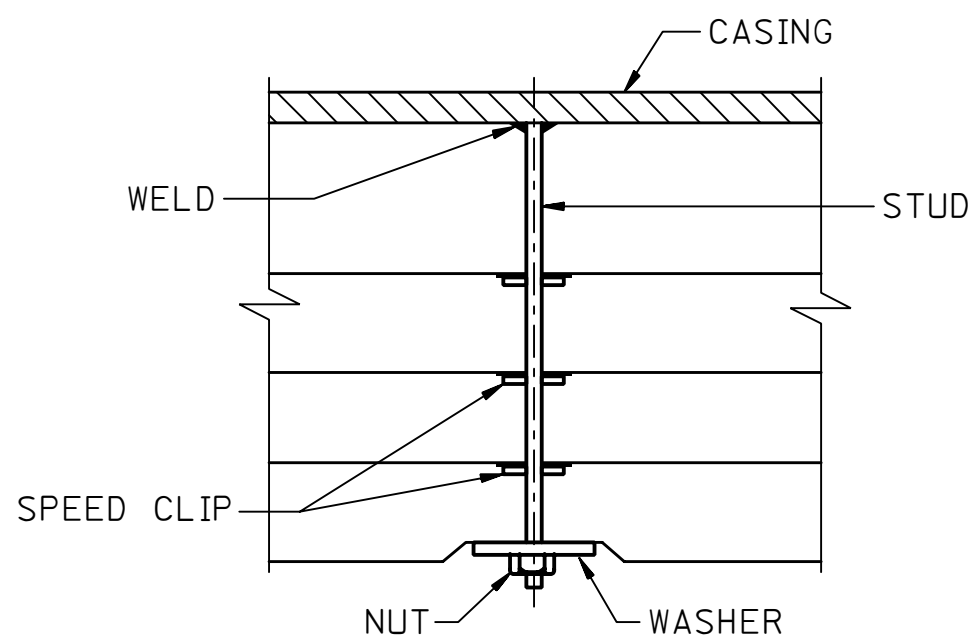
DETAIL 8: INSTALLATION OF CUPLOCK WASHERS

- CUPLOCK WASHERS SHALL BE USED WHERE REQUIRED FOR OXIDATION / SULFIDATION PROTECTION AS SPECIFIED IN TABLES 1A AND 1B.
- TO INSTALL CUPLOCKS, A NAIL IS FIRST INSERTED TO HOLD THE RCF IN PLACE. A SLICE IS MADE IN THE RCF, AND THE CUPLOCK IS INSERTED AND LOCKED INTO PLACE. THEN THE NAIL IS REMOVED.
- THE CUPLOCK IS FILLED WITH MOLDABLE RCF.

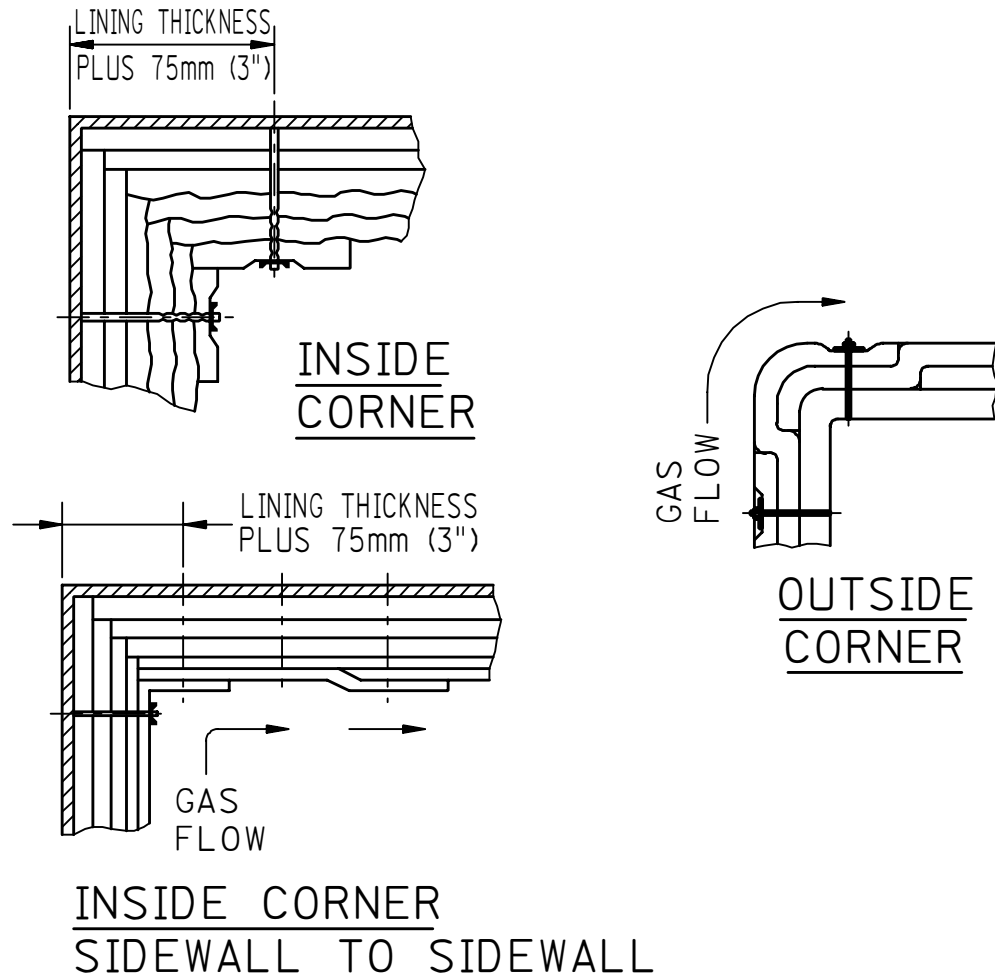
DETAIL 9: TIE-IN OF BLANKET TO DENSE REFRACTORY

- THIS DETAIL SHALL BE USED IN AREAS WHERE LAYERED BLANKET TIES INTO DENSE REFRACTORY.
- THE LAYER OF BLANKET ADJACENT TO THE DENSE REFRACTORY SHALL BE CEMENTED INTO PLACE WITH AN RCF CEMENT.

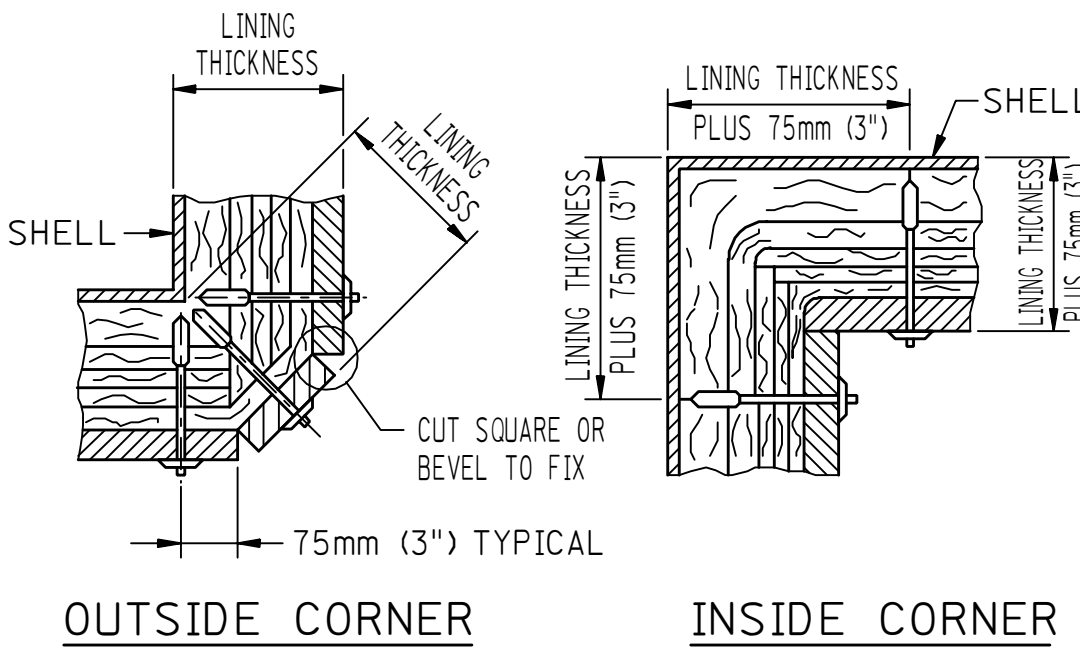
DETAIL 4
USE OF SPEED CLIPS



DETAIL 5
CORNER DETAILS, LAYERED BLANKET SYSTEMS



DETAIL 6
CORNER DETAILS SHALL BE USED FOR
CORNERS IN BLANKET/BOARD SYSTEMS



- BLANKET SHALL BE ORIENTED SO THAT DOMINANT GAS FLOW IS PERPENDICULAR TO THE BLANKET LENGTH WHERE POSSIBLE.
- THE TOP LAYER IN A LAYERED BLANKET SYSTEM SHALL BE OVERLAPPED 100mm (4") BOTH LENGTHWISE AND ACROSS THE WIDTH WITH A 610mm (24") WIDE BLANKET.
- THE MAXIMUM DISTANCE FROM THE EDGE OF THE BLANKET TO THE FIRST ANCHOR SHALL BE 50mm (2").
- THE MAXIMUM ANCHOR SPACING (X) ALONG THE LENGTH OF THE BLANKET SHALL BE:

HOT FACE TEMPERATURE	
BELOW 980°C (1800°F)	980-1090°C (1800-2000°F)
WALLS 380mm (15")	300mm (12")
OVERHEAD 300mm (12")	230mm (9")

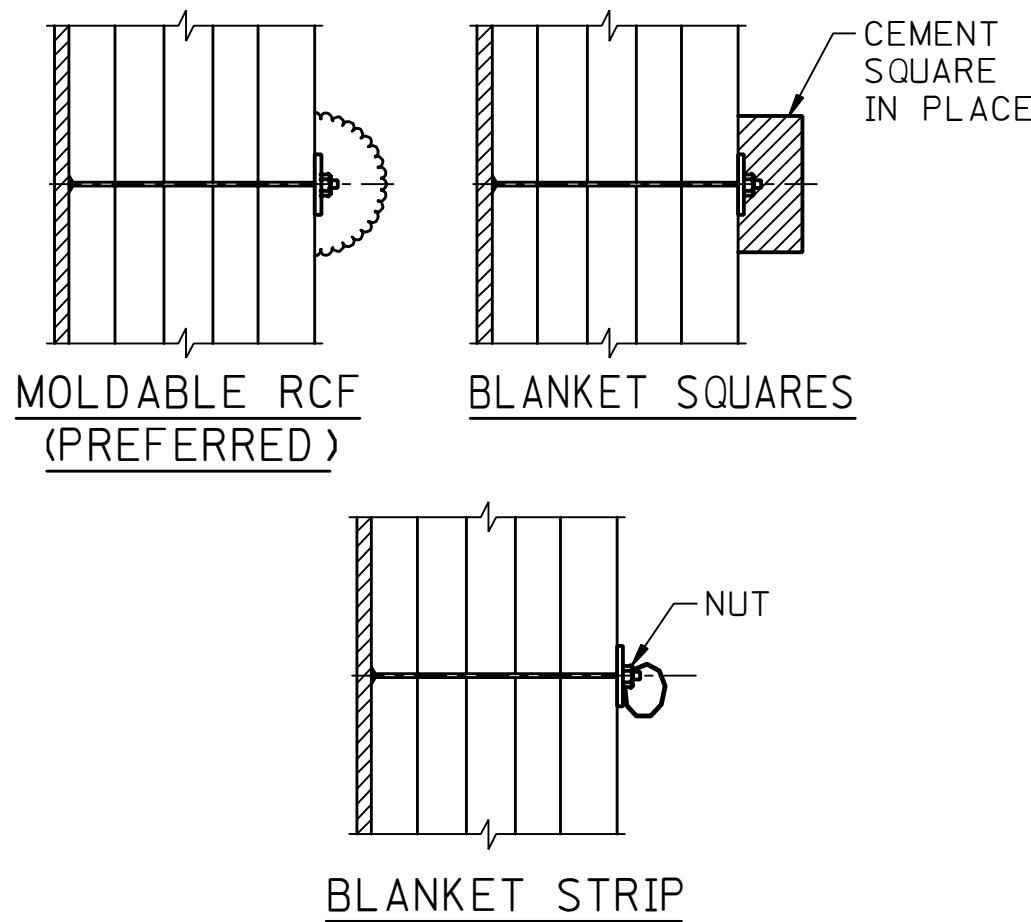
DETAIL 2: BLANKET / BOARD ANCHOR PLACEMENT JOINT CONSTRUCTION

- THE BOARD LAYER ON BLANKET / BOARD SHALL BE BUTT-JOINTED.
- A MINIMUM OF FOUR ANCHORS SHALL BE USED FOR EACH BOARD. 18"x18"x1 1/2 " BOARDS SHALL BE USED OVERHEAD. ON WALLS, 24"x24"x1 1/2 " BOARDS ARE ALSO ACCEPTABLE.
- THE MAXIMUM DISTANCE FROM THE EDGE OF A BOARD TO THE FIRST ANCHOR SHALL BE 50mm (2").

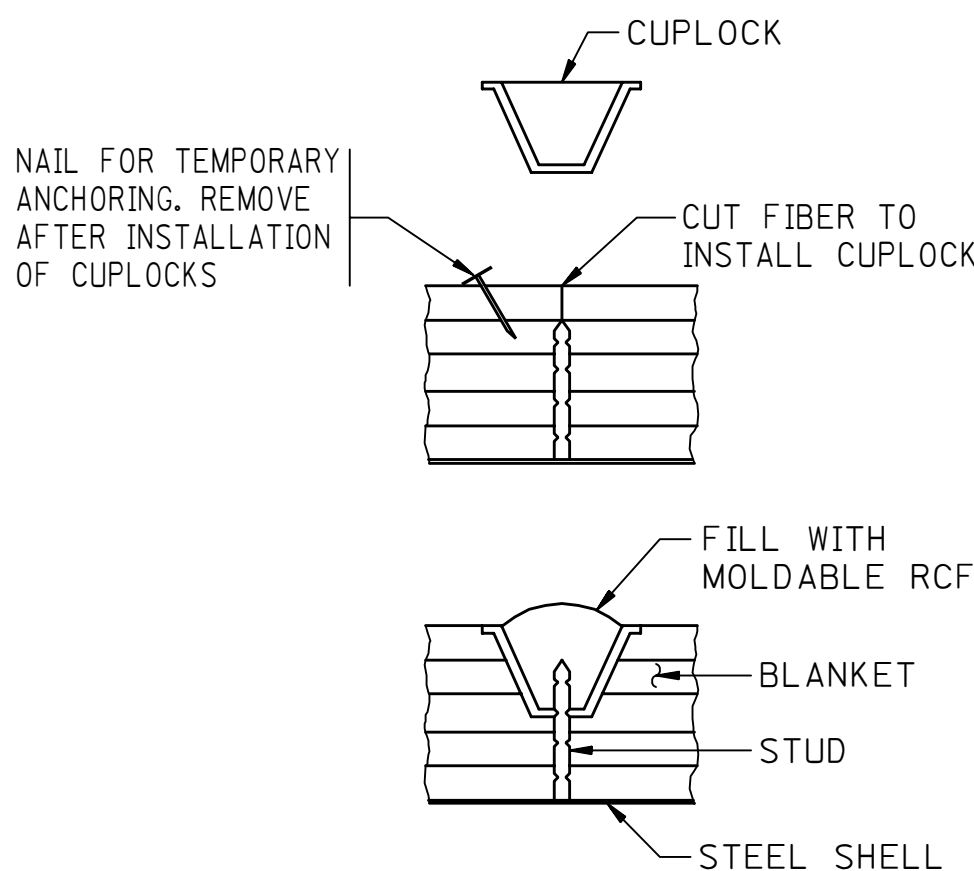
DETAIL 3: STAGGERED JOINTS

- IN LAYERED BLANKET SYSTEMS, THE JOINTS IN ADJACENT BLANKET LAYERS SHALL BE STAGGERED SO THAT THERE IS NOT A CLEAR PATH THROUGH TO THE FURNACE SHELL.
- ADJACENT LAYERS IN BLANKET / BOARD SYSTEM SHALL ALSO BE STAGGERED.

DETAIL 7
COVERING ANCHOR ENDS



DETAIL 8
INSTALLATION OF CUPLOCK WASHERS



DETAIL 9
TIE-IN OF BLANKET TO DENSE REFRACTORY

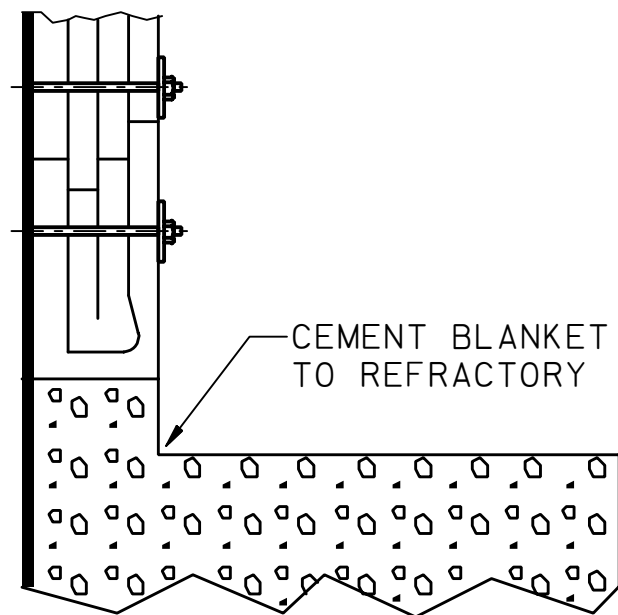


TABLE 1A: ANCHOR MATERIAL TEMPERATURE LIMITS,
CLEAN FUEL (LESS THAN 0.5% SULFUR)

MAXIMUM ANCHOR TEMPERATURE, °C (°F)	RECOMMENDED MATERIAL
UP TO 815 (1500)	TYPE 304
815-925 (1500-1700)	TYPE 310
925-1040 (1700-1900)	RA 330, INCOLOY 800
1040-1090 (1900-2000)	INCONEL 601
1090-1150 (2000-2100)	INCONEL 601 WITH CERAMIC CUPLOCKS
ABOVE 1150 (2100)	CERAMIC

TABLE 1B: ANCHOR MATERIAL TEMPERATURE LIMITS,
DIRTY FUEL (MORE THAN 0.5% SULFUR)

MAXIMUM ANCHOR TEMPERATURE, °F	RECOMMENDED MATERIAL
UP TO 925 (1700)	TYPE 310 WITH CERAMIC CUPLOCKS
925-1090 (1700-2000)	INCONEL 601 WITH CERAMIC CUPLOCKS
ABOVE 1090 (2000)	CERAMIC

DRAWING RESPONSIBILITY:
VESSEL STANDARDS COMMITTEE

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REV. NO.	DATE	BY	JO/EWO	DESCRIPTION	CHKD.	CERT.	APPD.
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SAUDI ARABIAN OIL COMPANY

DRAWN BY	ESSD/RCR	CHECKED BY		SCALE	NONE
DATE STARTED	APR94	DATE COMPLETED	APR94		
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
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REFRACTORY CERAMIC FIBER LAYERED

BLANKET & BLANKET BOARD

INSTALLATION DETAILS

STD. DWG.

PLANT NO.	INDEX	DRAWING NUMBER	SHT. NO.	REV. NO.
990	N	AB-036400	001	01