

GENERAL NOTES:

1. SURFACE PREPARATION PROFILE FOR STAINLESS STEEL ANGLE
STAINLESS STEEL HAS A SMOOTH, PASSIVE CHROMIUM OXIDE SURFACE LAYER THAT PREVENTS STANDARD PAINTS AND INTUMESCENT COATINGS FROM BONDING SECURELY. UNDER THE EXTREME THERMAL STRESSES OF A FIRE EVENT, IMPROPER SURFACE PREPARATION WILL CAUSE THE INTUMESCENT COATING TO DELAMINATE OR SPALL OFF, EXPOSING THE STEEL AND EPOXY TO RAPID HEAT TRANSFER.TO SATISFY A 2-HOUR FIRE-RATED INSTALLATION, THE GRADE B8/B8M STAINLESS STEEL ANGLE MUST BE PREPARED USING A MECHANICAL ABRASIVE BLAST PROFILE
2. ABRASIVE BLAST PROFILE: SPECIFIABLE REQUEST A NON-MAGNETIC, NON-FERROUS ABRASIVE BLAST (SUCH AS ALUMINUM OXIDE OR GARNET) TO ACHIEVE A SHARP, ANGULAR SURFACE PROFILE OF 1.5 TO 2.5 MILS (38 TO 63 MICRONS).
3. MEDIA RESTRICTIONS: NEVER USE CARBON STEEL SHOT, STEEL GRIT, OR COPPER SLAG. THESE MATERIALS WILL EMBED IRON PARTICLES INTO THE STAINLESS STEEL SURFACE, DESTROYING ITS CORROSION RESISTANCE AND CAUSING GALVANIC CORROSION BEHIND THE FIREPROOFING LAYER.
4. DE-GREASING AND CLEANING: PRIOR TO BLASTING, THE ANGLE MUST BE SOLVENT-CLEANED ACCORDING TO SSPC-SP 1 (SOLVENT CLEANING) TO COMPLETELY REMOVE ALL FABRICATION OILS, GREASE, AND CUTTING FLUIDS.
5. TESTING FOR CONTAMINANTS: AFTER BLASTING, ENSURE THE SURFACE IS FREE OF DUST AND CHLORIDES (SALT CONTAMINATION). IF THE ENVIRONMENTAL EXPOSURE IS MARINE OR INDUSTRIAL, A CHLORIDE WASH MAY BE REQUIRED PRIOR TO COATING APPLICATION.
6. PRIMER APPLICATION WINDOW: APPLY THE MANUFACTURER-APPROVED INTUMESCENT PRIMER COAT WITHIN 4 HOURS OF ABRASIVE BLASTING TO PREVENT SURFACE CONTAMINATION OR FLASH RE-ASSIGNATION.
7. STEP-BY-STEP CONSTRUCTION SEQUENCE TO ENSURE THE CHEMICAL EPOXY ADHESIVE, ELASTOMERIC JOINTS, AND THERMAL INSULATION COATINGS PERFORM PROPERLY WITHOUT INTERFERING WITH ONE ANOTHER, THE CONSTRUCTION SEQUENCE MUST BE EXECUTED IN THIS EXACT CHRONOLOGICAL ORDER [PHASE 1: ANCHOR INSTALLATION] → [PHASE 2: JOINT FIRE STOPPING] → [PHASE 3: INTUMESCENT APPLICATION]

PHASE 1 STRUCTURAL ANCHORAGE INSTALLATION

- A. LOCATE AND DRILL: LAYOUT THE ANCHOR LOCATIONS ON THE PRECAST CONCRETE BEAM. DRILL THE ANCHOR HOLES TO THE REQUIRED DEPTH USING A ROTARY HAMMER DRILL OR CORE DRILL, PER SIMPSON STRONG-TIE SET-3G INSTRUCTIONS.
- B. CLEAN THE HOLE: CLEAN THE DRILLED HOLES THOROUGHLY USING THE "BLOW-BRUSH-BLOW" METHOD WITH OIL-FREE COMPRESSED AIR AND A NYLON/WIRE BRUSH. RESIDUAL CONCRETE DUST WILL DRASTICALLY REDUCE EPOXY BOND STRENGTH.
- C. INJECT EPOXY AND SET ANCHORS: INJECT THE SIMPSON SET-3G EPOXY ADHESIVE INTO THE BACK OF THE HOLES. INSERT THE 5/8" DIAMETER GRADE B8/B8M STAINLESS STEEL THREADED RODS WITH A SLOW TWISTING MOTION. WIPE AWAY EXCESS EPOXY SQUEEZE-OUT.
- D. CURE AND TORQUE: ALLOW SIMPSON SET-3G ADHESIVE TO CURE UNDISTURBED FOR THE MINIMUM CURE TIME SPECIFIED BY THE MANUFACTURER, BASED ON THE CONCRETE TEMPERATURE AT THE TIME OF INSTALLATION. DO NOT LOAD OR TORQUE ANCHORS UNTIL THE REQUIRED CURE TIME HAS BEEN ACHIEVED. AFTER FULL CURE, INSTALL THE 11" x 11" x 3/8" STAINLESS STEEL PLATE, WASHERS AND NUTS, AND TORQUE THE NUTS TO THE MANUFACTURER'S SPECIFIED INSTALLATION TORQUE.

PHASE 2 : JOINT FIRE STOPPING AND JOINT SEALING

- A. PACK MINERAL WOOL BACKING: PACK THE PERIMETER GAP INTERFACE BETWEEN THE CONCRETE SURFACE AND THE VERTICAL LEG OF THE STEEL ANGLE WITH A MINIMUM 4 LBS/CU. FT. DENSITY MINERAL WOOL. COMPRESS IT TIGHTLY, LEAVING A UNIFORM 1/2-INCH DEEP RECESS AROUND THE PERIMETER EDGES.
- B. APPLY FIREPROOF FLEXIBLE CAULK: GUN THE HIGH-PERFORMANCE ELASTOMERIC FIRE STOP CAULK INTO THE 1/2-INCH DEEP PERIMETER RECESS. TOOL THE CAULK FLUSH WITH THE 3/8" THICK EDGE OF THE STAINLESS STEEL ANGLE VERTICAL LEG.
- C. SEAL THE BEARING PAD SEAT: INSTALL THE PRECAST QUAD TEE ONTO ITS BEARING PADS ON THE ANGLE SEAT. PACK MINERAL WOOL AND APPLY THE 1/2-INCH THICK FIREPROOF FLEXIBLE CAULK AROUND THE PERIMETER OF THE BEARING PAD JOINT TO SEAL THE SEAT. ALLOW ALL CAULK TO CURE COMPLETELY (TYPICALLY 24-48 HOURS) BEFORE MOVING TO THE PAINTING PHASE.

PHASE 3: INTUMESCENT FIRE PROTECTION COATING

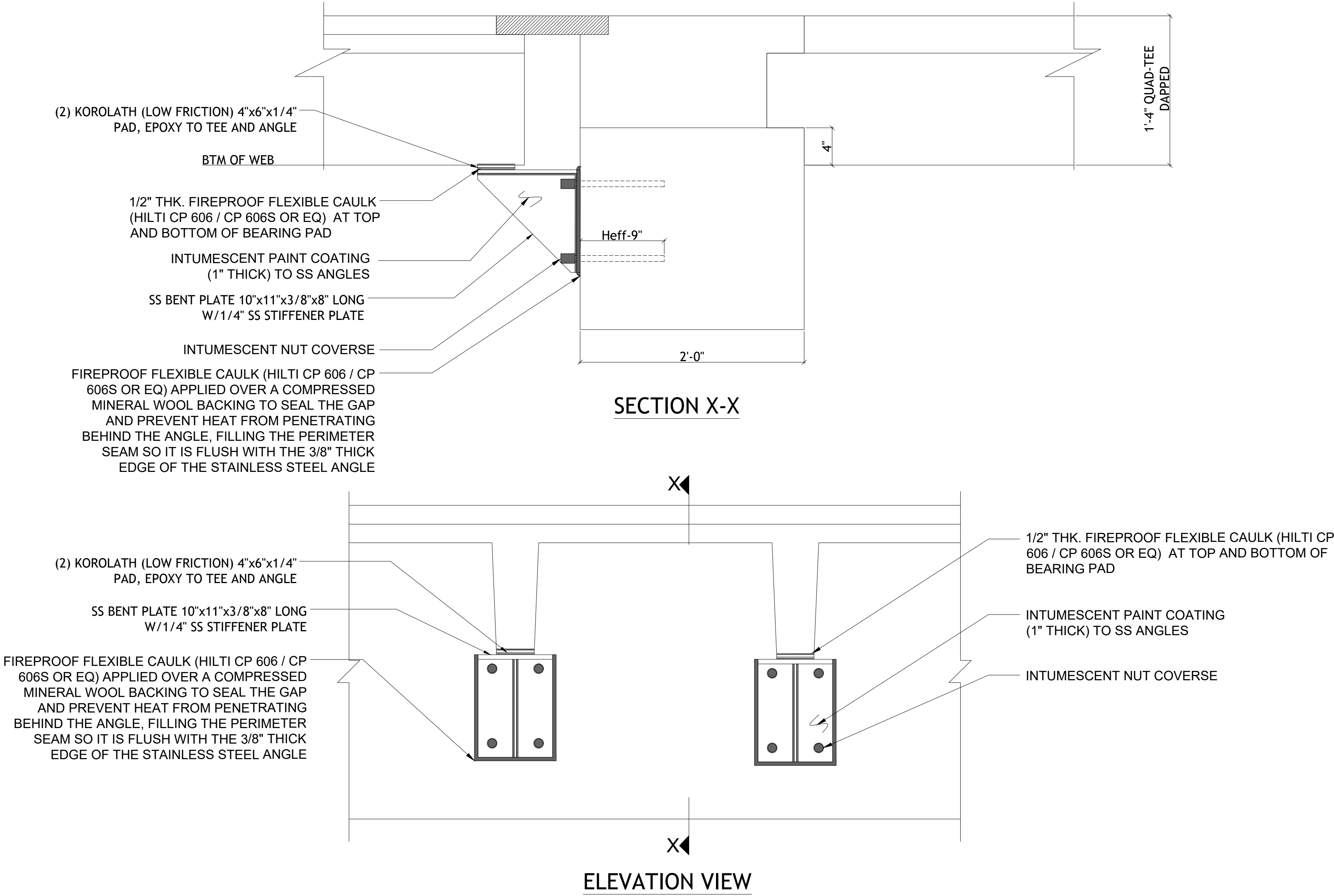
- A. MASKING: MASK OFF A CLEAN BORDER LINE ON THE CONCRETE BEAM 2 TO 4 INCHES OUTWARD FROM THE OUTER PERIMETER EDGES OF THE STAINLESS STEEL ANGLE.
- B. APPLY PRIMER: SPRAY OR BRUSH THE DESIGNATED BONDING PRIMER OVER THE EXPOSED FACE OF THE STAINLESS STEEL ANGLE, THE CURED FIREPROOF CAULK SEAMS, AND THE 2-TO-4-INCH CONCRETE OVERLAP ZONE.
- C. SPRAY INTUMESCENT PAINT: SPRAY-APPLY THE INTUMESCENT PAINT COATING OVER THE ENTIRE STEEL ANGLE ASSEMBLY, INCLUDING THE WASHERS AND NUTS, EXTENDING THE APPLICATION OVER THE CAULK AND ONTO THE CONCRETE UP TO THE MASKED LINE. APPLY IN SEQUENTIAL LIFTS UNTIL THE REQUIRED 1-INCH TARGET THICKNESS (OR PRODUCT-SPECIFIC WET/DRY FILM THICKNESS) IS ACHIEVED.
- D. INSTALL NUT COVERS: SNAP OR THREAD THE PRE-FORMED INTUMESCENT NUT COVERS OVER THE EXPOSED ANCHOR NUTS. ENSURE THEY FIT TIGHTLY AGAINST THE INTUMESCENT-COATED BASE ANGLE FACE TO ELIMINATE ANY POTENTIAL THERMAL WEAK POINTS. DAKEN FIRE SHIELD 2 HR. FIRE RATED BOLT CAP OR APPROVED EQUAL.

8. NOTES FOR INTUMESCENT PAINT

- A. SPRAY-APPLIED INTUMESCENT PAINT OVER THE STEEL MUST BE EXTENDED ONTO THE CONCRETE SURFACE
- B. TO PREVENT HEAT FROM RAPIDLY CONDUCTING INTO THE CONCRETE IMMEDIATELY ADJACENT TO THE CONNECTION, STANDARD FIREPROOFING PRACTICE REQUIRES SPRAYING THE INTUMESCENT PAINT PAST THE EDGE OF THE ANGLE BY A MINIMUM LENGTH OF 2 TO 4 INCHES (50 MM TO 100 MM). THIS CREATES A CONTINUOUS, PROTECTIVE THERMAL SKIRT THAT COMPLETELY SEALS THE CAULKED JOINT AND INSULATES THE SURROUNDING CONCRETE FROM LOCAL THERMAL SHOCK.
- C. APPLICATION SEQUENCE PACK THE MINERAL WOOL BACKING TIGHTLY INTO THE 3/8" PERIMETER GAP BEHIND THE ANGLE.APPLY THE FIREPROOF FLEXIBLE CAULK FLUSH WITH THE EDGE OF THE STEEL ANGLE LEG AND ALLOW IT TO FULLY CURE.SPRAY THE INTUMESCENT PAINT OVER THE ENTIRE STAINLESS STEEL ANGLE, MASKING OFF AND EXTENDING THE SPRAY PATTERN 2 TO 4 INCHES ONTO THE CONCRETE BEAM TO FORM A SEAMLESS BARRIER. CONTRACTOR TO SUBMIT FOR APPROVAL, THE SAMPLES & MANUFACTURE'S CUT SHEET OF 2-HOUR FIRE RATING.

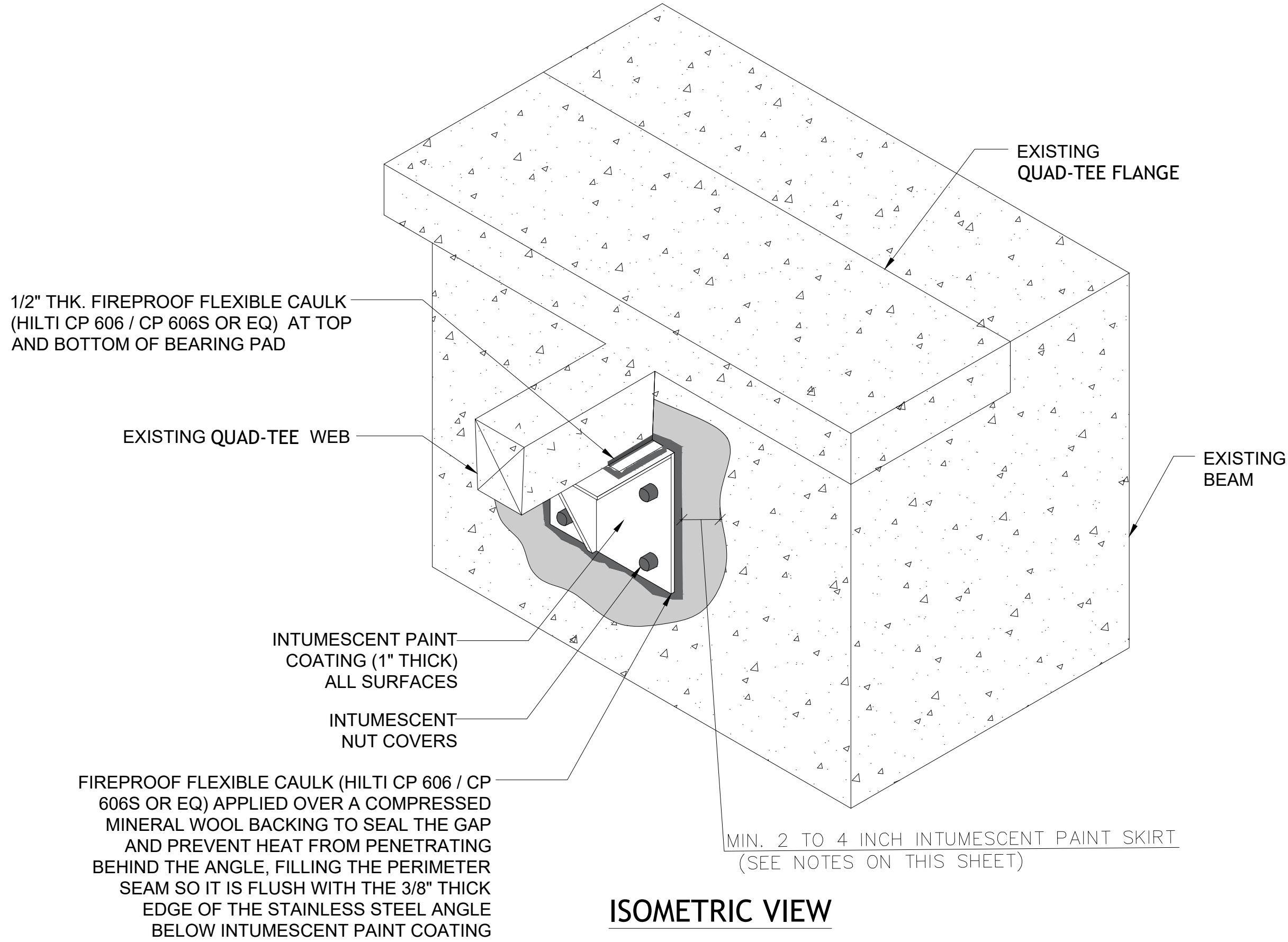
9. MATERIAL SPECIFICATIONS FOR FLEXIBLE FIRE CAULK

- A. PROPERTY FIELD - SPECIFICATION CONSTRAINT REQUIREMENTS
- B. PRIMARY CODE TESTING STANDARDS - MUST BE UL CLASSIFIED AND INTERTEK LISTED TO UL 2079 AND ASTM E1966 FOR STRUCTURAL JOINT FIRE-RESISTIVE CONSTRUCTION.
- C. MATERIAL BASE - WATER-BASED ELASTOMERIC ACRYLIC, LATEX, OR POLYMERIZING SYNTHETIC RUBBER. PURE RIGID SILICATES ARE UNAPPROVED DUE TO VIBRATION LIMITS.
- D. MOVEMENT CLASS - MINIMUM ±12.5% TO ±25% JOINT MOVEMENT CAPABILITIES UNDER LOAD.
- E. SURFACE FINISH - MUST BE FULLY PAINTABLE AFTER COMPLETE CURE (MINIMUM 24-48 HOURS) TO ENSURE PROPER ADHESION OF THE INTERSECTING INTUMESCENT STRUCTURAL STEEL PAINT.
- F. ENVIRONMENTAL SAFETY- LOW VOC EMISSIONS, HALOGEN-FREE, AND SOLVENT-FREE TO ACCOMMODATE RESTRICTED INTERIOR APPLICATIONS.

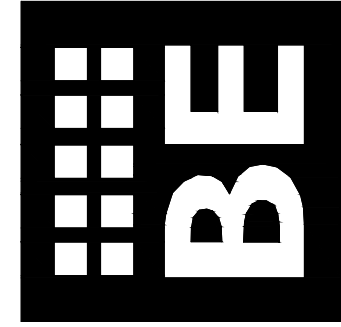


1 TYP. DETAIL FOR 2 HOUR FIRE- RATED CONNECTION ASSEMBLY
SCALE: 1 1/2" = 1'-0"

NOTE - REFER TO STRUCTURAL DRAWINGS FOR DETAILED DIMENSIONS.



ISOMETRIC VIEW



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DATE:
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TITLE:
DETAIL FOR 2 HOUR
FIRE- RATED
CONNECTION
ASSEMBLY

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