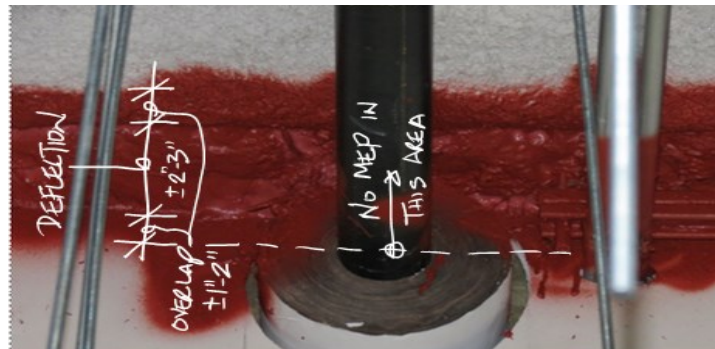


During BIM coordination, the following items should be reviewed in order to prevent common Quality issues.

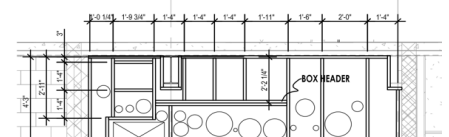
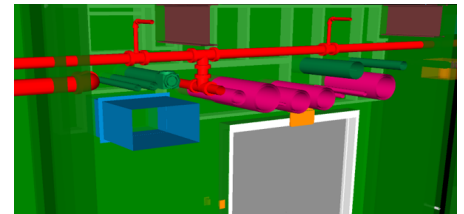
BIM / MEP Quality Review Checklist (Fire/Smoke Walls): *Discuss at your BIM Coordination Meeting*

- Confirm Live Load Deflection with AOR/SEOR—if non given, use L/360 for floors and L/240 for roofs (L=length between columns/support (inches))
- Confirm NO-FLY-ZONE—dependent on the type of fire stopping system at the Head-of-Wall (HoW) - See below
- REVIEW THE TYPE OF HEAD-OF-WALL...if it is spray system... No-Fly-Zone of 3'-6" will work. If it is a mechanical type system (such as drywall overlapping the joint, "fire trak", etc. the distance will dramatically be different and considerably be larger...around 12"-15".
- The sides of the beam, joist, etc. also has a No-Fly-Zone for this type of system...generally around 1'-2".
- Review fire plan and the beam locations. The fire Head-of-Wall installation will likely be horizontal if the beam is less than 12" from the adjacent wall at the low part of the beam (including fire spray).
- MEP items cannot go through the Head-of-Wall...which means:
 - The Head-of-Wall includes anything 3"-6" down from the deck (low flute), steel beam, joist, etc.
 - Locate the top of any MEP item 4"-7" from the bottom of the deck (low flute), steel beam flange, joist, etc. in order to properly install the fire stopping overlap.
 - Make sure that the insulation thickness (water pipe, steam pipe, etc.) is below the 4"-7" Head-of-Wall.
 - Make sure that the top of the mechanical duct flange and insulation wrap is at least below the 4"-7" Head-of-Wall.
 - Understand the thickness of the fireproofing, as the 4"-7" from the bottom of the deck (low flute), steel beam flange, joist, etc. starts at the bottom of the fireproofing.
- MEP items should NOT go through the fire/smoke wall at an angle other than 90° when possible, maximum angle when tested is generally 90°-45°-confirm with the approved tested assembly. (There is a limited tested assembly, with one mfr...which just cannot be duplicated by another Mfr)
- HVAC ductwork should not be half in the fire / smoke wall (drywall) - give enough room to allow for construction tolerance.
- Plumbing & electrical items should not be half in the fire / smoke wall (drywall) - give enough room to allow for construction tolerance.
- MEP items such as plumbing should not have a flange, hub, "Y", or fitting connection part way in the fire wall (unless the system is not tested)



It is important to include

- Live load deflection
- Type of HoW system
- Fireproofing thickness
- Actual pipe insulation thickness
- Slope of pipe
- CMU Bond Beam height at top of wall and openings
- The quality and size of piping for the wall system



- MEP hangers rods should be at least 3" away from the wall.
- Door or window king studs need to go to deck above...If required, move over king studs and increase the length of the box beam above the door. If the duct must go through the king stud, try and get it to at least miss one side of the door to allow for the king stud to extend to the deck.
- There is a maximum total length of a group of electrical conduits in a row allowed to go through a wall...review the UL Assembly from the Contractor.
- Only stair related MEP items can be within or through the stair enclosure.
- NFPA 101 does not allow MEP items in the firewall of a stairway or exit passageway that is not part of those rooms (including the other side) (This would include plumbing for a sink in a room adjacent to an exit passageway—the adjacent room will need to be furred out for the pipe)
- Any plumbing going through an electrical or IT closet is properly protected underneath the pipe with a fully soldered stainless steel gutter.
- Fire damper in a 2-hour wall or greater...must be within the wall plane. Model clear access zone for damper access.
- Smoke damper must be with-in 2'-0" of the plane of the wall. Model clear access zone for damper access.
- Review CMU walls and determine location of bond beams...typically located 8"-16" above a door and 1-3 CMU courses below the top of the wall... REVIEW THE STRUCTURAL DRAWINGS FOR LOCATIONS...(See diagram above)
- Determine if there are beam penetrations...edge of openings will need spray fireproofing which must be included into the opening size...Need to verify of the flange is to be designed to 1/2 or full tip thickness prior to determining overall encroachment.
- Consider the slope of the water, steam, or vent pipe when laying out pipe route and consider the Head-of-Wall as the highest point on one side.
- CURVED DRYWALL PARTITIONS CANNOT BE A FIREWALL—IF A CURVED WALL IS DESIGNED, THE WALL MUST BE CONCRETE, CMU, PLASTER, OR SEGMENTED (WITH A CURVED WALL IN FRONT IF DESIRED)

Contact the QA/QC VP for any questions.