

Date of Initial Review:		Location of Work Performed:	Day	initial	Weather	Beg Temp End Temp
			Monday			
			Tuesday			
			Wednesday			
			Thursday			
			Friday			
Project:	#					

N/A	Mon	Tue	Wed	Thur	Fri		Comments
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N/A	<input checked="" type="checkbox"/>	NFPA99 5.3.10.10.13	Obtain certification from all tradesman who will be brazing					
N/A	<input checked="" type="checkbox"/>		Make sure that all piping is properly on dunnage or pipe rack and kept clean.					
N/A	<input checked="" type="checkbox"/>	NFPA 99 5.3.10.11	Piping shall be identified by the mfr. "OXY", "MED", OXY/MED", "OXY/ACR", OR "ACR/MED" in blue (Type L) or green (Type K)					
N/A	<input checked="" type="checkbox"/>		Tubes, valves, fittings, station outlets, and other piping components shall have been cleaned for oxygen service prior to installation.					
N/A	<input checked="" type="checkbox"/>		Each length of tube shall be delivered plugged or capped and kept sealed until installation.					
N/A	<input checked="" type="checkbox"/>		Fittings, valves, and other components shall be delivered sealed and labeled by the mfr and kept sealed until installation.					
N/A	<input checked="" type="checkbox"/>	NFPA 99 5.3.10.2	Piping for level 1 medical vacuum shall be seamless Type K or L copper tubing (ASTM B819), or other approved material.					
N/A	<input checked="" type="checkbox"/>	NFPA 99 5.3.10.2	Piping for level 1 medical vacuum shall be hard-drawn seamless copper, or other approved material.					
N/A	<input checked="" type="checkbox"/>		Copper to copper joints shall be brazed without flux using copper phosphorous or copper phosphorous-silver brazing filler metal, or similar.					
N/A	<input checked="" type="checkbox"/>		Overlap of piping shall be minimum 3x the thickness of the thinner material, but not less than 1/4"					
N/A	<input checked="" type="checkbox"/>		Joints should be brazed within one hour after the surfaces are cleaned					
N/A	<input checked="" type="checkbox"/>		Caps are placed at ALL open ends at the end of the day.					
N/A	<input checked="" type="checkbox"/>	NFPA 99 5.3.10.7.5.1	While being brazed (Oxygen, Nitrous Oxide, etc.) joints shall be continuously purged with oil-free, dry Nitrogen NF to prevent the formation of copper oxide on the inside surfaces being joined.					
N/A	<input checked="" type="checkbox"/>	NFPA 99 5.3.10.7.5.2	The source of the purge gas shall be monitored and the installer shall be audibly alerted when the source content is low.					
N/A	<input checked="" type="checkbox"/>	NFPA 99 5.3.10.7.5.6	During and after installation, openings in the piping shall be kept sealed to maintain a nitrogen atmosphere within the piping to prevent debris from entering the system.					
N/A	<input checked="" type="checkbox"/>	NFPA 99 5.3.10.7.5.10	The final connection of the new piping to an					



N/A	Mon	Tue	Wed	Thur	Fri		Comments						
							existing pipe shall be permitted to be made without the use of a nitrogen purge.						
N/A	✓	✓	✓	✓	✓	NFPA 99 5.3.10.7.5.11	After the final connection of a new piping system to an existing system, an outlet of the immediate downstream zone shall be tested – Final-in test.						
N/A	✓	✓	✓	✓	✓		Joints are to be free of excessive braze metal						
N/A	✓	✓	✓	✓	✓		Use a wet rag and a stainless steel brush to clean the outside surfaces from oxide.						
N/A	✓	✓	✓	✓	✓	NFPA 99 5.3.10.10.10.6	Piping shall be supported from the building structure: <table border="0" style="display: inline-table; vertical-align: top;"> <tr> <td>1/4" = 5'-0" o.c.</td> <td>1" = 8'-0" o.c.</td> </tr> <tr> <td>3/8" & 1/2" = 6'-0" o.c.</td> <td>1 1/4" = 9'-0" o.c.</td> </tr> <tr> <td>3/4" = 7'-0" o.c.</td> <td>1 1/2" = 10'-0" o.c.</td> </tr> </table>	1/4" = 5'-0" o.c.	1" = 8'-0" o.c.	3/8" & 1/2" = 6'-0" o.c.	1 1/4" = 9'-0" o.c.	3/4" = 7'-0" o.c.	1 1/2" = 10'-0" o.c.
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N/A	✓	✓	✓	✓	✓		Piping support shall be copper or have a plastic coated insulator.						
N/A	✓	✓	✓	✓	✓		Pipes shall have cushion clamps on all hangers						
N/A	✓	✓	✓	✓	✓		Make sure that a cross contamination test has been complete						
N/A	✓	✓	✓	✓	✓	NFPA99 5.1.11	Label all piping: <ol style="list-style-type: none"> 1. No more than 20'-0" intervals 2. Every change in direction 3. Located before & after a wall or barrier 4. Behind access doors 5. All inlets and outlets 6. Vertically at every floor. 7. At least one in every room 8. Lettering shall be at least 3/8" high and parallel to the pipe. 9. Identify the type, direction, and working pressure if 100-300 psi. 						
N/A	✓	✓	✓	✓	✓	NFPA99 5.1.11	Label all valves: <ol style="list-style-type: none"> 1. Lettering shall be at least 3/8" high and parallel to the pipe. 2. Identify the type, source, main line, riser for service. 3. Identify room numbers servicing 						
N/A	✓	✓	✓	✓	✓		Perform a rough test prior to certification (<i>soapy water on all joints</i>): <u>Medical Gas</u> – test at 1.5x the working pressure (not less than 150 psig or per Mfr/Spec) <u>Vacuum</u> – maintain a 12mmHg negative pressure						
N/A	✓	✓	✓	✓	✓		Verify that ALL outlets are FLUSH with final wall surface						
N/A	✓	✓	✓	✓	✓		Provide final documentation of system certification						





Quality Technical Bulletin

BIM Quality Concerns for Coordination

Issue 30R

010000

06 June 2014

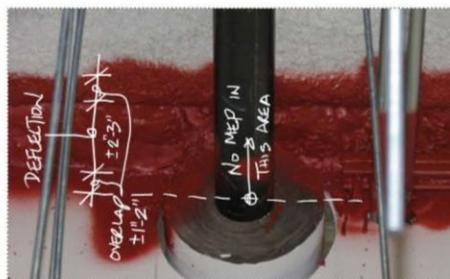


During BIM coordination, the following items should be reviewed in order to prevent common Quality issues.

Corey Zussman, AIA, NCARB - Director of Quality Management

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

- REVIEW THE TYPE OF HEAD-OF-WALL...if it is spray system... the 5"-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". Also note that the sides of the beam, joist, etc. also has a no fly zone for this type of system...generally around 6"-8".
- REVIEW THE TYPE OF HEAD-OF-WALL...Review fire plan, beam locations, and discuss with the fire head-of-wall installation contractor to make sure that the head-of-wall will be horizontal or vertical...discuss with the installation contractor to make sure that the head-of-wall will be horizontal or vertical. *It will likely be horizontal if the beam is less than 12" from the wall.*
- MEP items cannot go through the head-of-wall...which means:
 - The head-of-wall includes anything 3"-4" down from the deck (low flute), steel beam, joist, etc...
 - Locate the top of any MEP item 5"-6" 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 5"-6" mark.
 - Make sure that the top of the mechanical duct flange and insulation wrap is at least below the 5"-6" mark.
 - Understand the thickness of the fire proofing, as the 5"-6" from the bottom of the deck (low flute), steel beam flange, joist, etc. starts at the bottom of the fire proofing.
- MEP items should NOT go through the fire/smoke wall at an angle other than 90°. (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)
- Plumbing & electrical items should not be half in the fire / smoke wall (drywall)
- MEP items such as plumbing should not have a flange, hub, or fitting connection part way in the wall (as that part of the system is not tested).
- MEP items such as plumbing should not have a "Y" half way into the wall (as that part of the system is not tested).
- MEP hangers (rod) should be at least 3" away from the wall.
- Door or window king studs need to go to deck above...review relocating king studs as required 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 sub Contractor.
- Only stair related MEP items can be within or through the stair enclosure.
- Make sure that any plumbing going through an electrical or IT closet is properly protected underneath the pipe with a fully soldered stainless steel pan.
- 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.

Additional Comments:

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Sign & Date:

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