

**MSHA Approval Number: 120M-11.1**  
**120 psi MICON MAIN LINE HYBRID II SEAL**  
**Covered by U.S. Patent No. 5,385,504 and/or**  
**one or more pending U.S. and international patent applications**

**MICON, Inc.**  
**For information, contact George Watson at (412) 664-7788, Ext. 15**

**INSTALLATION GUIDELINES**  
**(In up to 20-ft High by up to 28-ft Wide Mine Openings)**

1. The materials used in the installation of the MICON HYBRID II seal are solid, concrete masonry unit (CMU) blocks, HybriCrete blocks, prepackaged bags or prepackaged buckets of #57 stone or pea gravel, and SIGNUM & HybriBond, which are two-component, liquid polymers. Each component of SIGNUM and HybriBond is contained in sealed, 55-gallon drums. The storage restriction for the CMU blocks, HybriCrete blocks, and prepackaged (e.g., bags or buckets) #57 stone or pea gravel is a dry location and/or protected with a water-tight covering. The use restriction for the sealed, 55-gallon drums containing the components of SIGNUM and HybriBond is that prior to their use the temperature of each component in their drums shall be from 50° F to 90° F. The MICON technician shall take temperature readings on both components of SIGNUM and HybriBond in their drums before using same. In situations where the mine operator purchases the CMU blocks, MICON shall provide the mine operator a list of MICON-sanctioned, suppliers for the CMU. MICON shall not install the MICON Hybrid II seal unless the CMU has come from one of their sanctioned, block manufacturers.
2. The location(s) for the MICON seal shall be chosen by the mine and documented in their MSHA-approved, ventilation/sealing plan and would be in compliance with the mine's MSHA-approved, roof control/other plan(s). MICON shall not start construction of any MICON seal until the mine has verified to them that the location(s) for the seal and the roof control in those proposed, seal location(s) are in compliance with the appropriate, MSHA regulations. The mine's MSHA-approved, ventilation/sealing plan would specify the piping, fittings, traps, material, and locations for sampling and water-drainage pipes.
3. The front face of the outby wall and the back face of the inby wall of the MICON HYBRID II, seal should ideally be 10 feet from any rib line, but not less than 5 feet. If only a shorter distance than 10 feet, but greater than 5 feet is possible, the mine's P.E. would assure the ribs are competent before MICON would start construction of their seal. However, in approving the mine's sealing plan, the MSHA District Manager might require other rib reinforcement, which shall be installed by the mine.
4. The location for the MICON seal shall be free of standing water. Any running water will be diverted from the seal location. If water is present, prior to seal construction, the water shall be removed and "B" Bond, or equal, shall be used to dry the area.

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5. All metallic material, such as roof screens, conduit lines, mine rails, etc., shall be removed in the location for the MICON seal for at least its total thickness. No metallic material shall be allowed to penetrate completely through any part of the MICON seal's interior. Roof bolts, roof bolt plates, roof pans, and any other metallic material, which would be completely contained within the seal, can be left in place.
6. Remove all loose material from the roof, ribs, and floor, exposing competent rock/coal/strata at the seal location for at least the total thickness of the seal. Clear exposed surfaces to minimize dusts. Hitching into the competent ribs is not required. All debris in the area 50 feet inby the seal location and 50 feet outby the seal location will be removed.
7. After all loose material is removed from the roof, ribs, and floor, measurements shall be taken to determine the maximum height and width of the "cleaned" mine opening through the thickness of the proposed seal. MICON personnel shall take and/or verify the maximum, dimensions of the "cleaned" mine opening.
8. Using the seal-thickness charts, MICON personnel shall establish the minimum thickness of the MICON seal's core for the maximum height and width measured (both rounded upward to the nearest 0.25 foot) for the "cleaned" mine opening. If the "cleaned", mine-opening width exceeds 28 ft., this MICON seal could not be constructed. If the "cleaned", mine-opening height exceeds 20-ft., this MICON seal could not be constructed. If the "cleaned", mine-opening height is less than 4 ft., the minimum, core thickness for a 4 ft. height shall be used.
9. If the minimum, total thickness for the MICON HYBRID II seal – as determined in Step 8. – exceeds what had been "cleaned" in Step 6., remove all loose material from "uncleaned" roof, ribs, and floor to assure the MICON HYBRID II seal through its total thickness would abut competent strata.
10. Establish the locations for the inby and outby, SIGNUM-glued, solid, concrete masonry unit (CMU) walls. Assure that the minimum, core thickness as per the seal-thickness chart for the maximum, "cleaned" mine height could be installed.
11. The mine operator would assure that all materials and equipment to be used in the construction of the MICON HYBRID II seal and the sampling/water-drainage/water-monitoring pipes to be installed in same would be delivered to the seal location prior to MICON starting construction of the MICON seal.
12. The MICON HYBRID II seal shall only be installed by personnel who either (a) have been trained on the installation of the MICON seal and are working under the direction of a MICON representative or (b) are trained MICON employees.

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13. The 120-psi, MICON HYBRID II, mainline seal could have multiple, sampling or water-monitoring pipes from 1/8" to 1-inch in diameter. Any high-density polyethylene, polyvinylchloride (PVC), or polypropylene pipe having an internal pressure rating of at least 240-psi would be acceptable. All these nonmetallic pipes shall be at least Schedule 80. The valves and fittings outside of the mine seal shall be made of corrosion-resistant or plastic-coated, metallic material having an internal pressure rating of 240-psi. Non-metallic valves and fittings can be used as long as they have an internal pressure rating of 240-psi. MSHA's District Manager will approve the minimum thicknesses of these valves and fittings. At least one sampling pipe shall be used and shall be a maximum 18 inches from the roof on the inby side and extend to the center of 1<sup>st</sup>, inby crosscut supported along its length with non-corrosive or plastic-coated, metallic roof hangers, 6-ft. or less on centers. Standing cribs, either made of hard wood or cementitious material, 6-ft. or less on centers, could also be used to support the sampling pipe from below. The sampling-pipe-support system, which was approved by the MSHA District in the mine's approved sealing plan, shall be installed. Water-monitoring pipes, when required, shall be installed as per the mine's MSHA-approved sealing plan.
14. The 120-psi, MICON HYBRID II, mainline seal could have no more than either a single, 8-inch diameter or up to four (4), no more than 6-inches in diameter, water pipe(s). Any high-density polyethylene, polyvinylchloride (PVC), or polypropylene pipe having an internal pressure rating of at least 240-psi would be acceptable. All these nonmetallic pipes shall be at least Schedule 80. The valves and fittings outside of the mine seal shall be made of corrosion-resistant or plastic-coated, metallic material having an internal pressure rating of 240-psi. Non-metallic valves and fittings can be used as long as they have an internal pressure rating of 240-psi. The location requirement is that any two water pipes and/or their U-traps shall be spaced at least 3-ft. on centers away from any other water pipe/U-trap and at least 3-ft. on center away from either rib. The U-trap(s) may or may not be recessed into the mine floor. Because no one location for a water pipe and its U-trap would be best for all seal installations, mine operators in submitting their seal plan to the MSHA District office shall include the location(s) of those water pipe(s) to best handle potential water build-up behind the seal; which location(s) shall meet the aforementioned number and spacing requirements (e.g., no more than 8-inches in diameter and at least 3-ft. on center from one another and/or the ribs). The seal is designed for a maximum height of water behind the seal of no more than 2-ft, which would mean the inby invert of the water pipe shall not exceed 24 inches from the mine floor. However, the maximum distance between the top of the inby end of the water drainage pipe and the mine floor (e.g., 14 inches maximum in some cases) as required by the MSHA District Manager in a mine's MSHA-approved sealing plan shall be followed in the construction of the seal. The mine shall insure that no standing water can accumulate on the seal's outby

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face. In mine openings up to 10-ft high, up to three (3), 12-inch diameter pipes, which are a minimum 6-inches off the mine floor and spaced +/- 12 inches from the vertical, quarter points of the seal, can be installed as long as the minimum, seal thickness is 72.6 inches.

15. Prior to the installation of each MICON HYBRID II seal or whenever a change-out in the two-component, pumping system is made, MICON personnel would prepare at least three, "beam" samples made by gluing with SIGNUM, the abutting faces of three (3), 3-1/2" x 3-1/2" x 3-1/2" cubes of CMU block to form 3-1/2" x 3-1/2" x 10-1/2" test specimens. Then, the six, exterior sides of each "beam" specimen would be coated with a minimum 3/16" to a maximum 5/16" of HybriBond. The "beam" test specimens would be cured at their respective seal site for at least 1-hour before being sent for testing. Whenever the two-component, pumping system has been idle for over 24 hours in the construction of the same seal, MICON technicians shall conduct a ratio test on the pump before using it in the further construction of the seal ("Beam" samples do not have to be taken in this instance). The ratio test consists of filling two containers – at least 8 oz each – simultaneously with the two-component pump and assuring the filled volumes of both containers do not vary by more than 1/2 oz from one another.
16. The collected, quality-control, "beam" samples shall be delivered to MICON, a testing laboratory, or a laboratory technician on site by either the mine operator or MICON personnel.
17. A technician, who had been trained and certified for the direct shear test, shall conduct the tests on the "beam" specimens. These quality control tests could be conducted on site or back in the laboratory.
18. Three (3), consecutive "beam" samples shall exhibit a minimum, shear strength listed below for various mining heights, in a direct shear test of the SIGNUM/CMU block interface.
  - a. <4 to 5 ft: 288 psi
  - b. >5 to 6 ft: 279 psi
  - c. >6 to 7 ft: 271 psi
  - d. >7 to 8 ft: 263 psi
  - e. >8 to 9 ft: 256 psi
  - f. >9 to 10 ft: 249 psi
  - g. >10 to 11 ft: 242 psi
  - h. >11 to 12 ft: 236 psi
  - i. >12 to 13 ft: 230 psi
  - j. >13 to 14 ft: 225 psi
  - k. >14 to 15 ft: 220 psi

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- l. >15 to 16 ft: 215 psi
- m. >16 to 17 ft: 212 psi
- n. >17 to 18 ft: 209 psi
- o. >18 to 19 ft: 207 psi
- p. >19 to 20 ft: 206 psi

Should the lowest shear strength of the three, consecutive samples be less than the above, specified, minimum, shear strength for a given mining height, and the company does not want to run additional, shear tests, the seal thickness,  $T_{\text{chart}}$ , shall be increased by adding more wythe(s) of CMU. The "new", minimum, seal thickness,  $T_{\text{new minimum}}$ , in these cases would be:

$$T_{\text{new minimum}} = T_{\text{chart}} \times (\text{Specified Minimum Shear Strength/Lowest Test Shear Strength})$$

19. A certified copy of the test results for each seal would be given to the mine operator for transmittal to the MSHA District Office.
20. Each MICON HYBRID II seal would not be considered to have reached its design strength until a certified copy of tests results are received and approved by the MSHA District Office.
21. Using any size, solid CMU blocks, construct the first (usually the inby), CMU wall (wythe) for the MICON Hybrid II seal using SIGNUM to fully glue-grout the abutting faces of the CMU together such that the wall (wythe) thickness is a minimum 7-1/4" thick to a maximum 16" thick. Fully, glue-grout the base course of the solid-concrete blocks to the mine floor with SIGNUM. Voids and/or depressions in the mine floor can be filled/leveled with SIGNUM - with or without #57 stone or pea gravel. After each row (course) or every other row (course) of CMU in the first, CMU wythe is installed, fully fill the gaps between the end blocks and ribs with SIGNUM, HybriBond, SIGNUM-glued, shaped pieces of CMU, and/or SIGNUM-coated, untreated or HybriCrete wedges to firmly tighten the CMU blocks in place. The maximum gap between the end course/row of CMU block and the rib shall be 2-inches or less. Fully fill the gaps between the last course and mine roof with SIGNUM, HybriBond, and/or SIGNUM-coated, untreated wood or HybriCrete wedges. The maximum distance between the top course/row of CMU block and the mine roof shall be 4-inches or less. The construction of the first wythe of CMU could be constructed simultaneously with the other wythes of CMU.
22. Construct the subsequent wythes (as many as are needed to achieve the minimum, seal thickness specified either in the seal thickness chart or in Step 14. above, whichever is larger) of CMU as the first (usually the inby), CMU wythe had been constructed in Step 21. above. The thickness of all wythes is a minimum 7-1/4" thick

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to a maximum 16" thick. The gap between all adjacent, CMU wythes shall be a minimum ¼" to a maximum of 2" and filled with either SIGNUM or HybriBond (Gaps less than ¼" are allowed for a maximum 48" in any one row, from rib to rib). The gap between the outby wythe of CMU and its adjacent, inby wythe of CMU shall be a minimum ¼" to a maximum of 4" and filled with either SIGNUM or HybriBond (Gaps less than ¼" are allowed for a maximum 48" in any one row, from rib to rib). The subject gap between adjacent walls (wythes) shall be filled after no more than every fourth row (course) with either SIGNUM or HybriBond. After each row (course) or every other row (course) of CMU in the subsequent, CMU wythes is installed, fully fill the gaps between the end blocks and ribs with SIGNUM, HybriBond, and/or SIGNUM-glued, shaped pieces of CMU, and/or SIGNUM-coated, untreated or HybriCrete wedges to firmly tighten the CMU blocks in place. The maximum gap between the end course/row of CMU block and the rib shall be 2-inches or less. Fully fill the gaps between the last course and mine roof with SIGNUM, HybriBond, and/or SIGNUM-coated, untreated wood or HybriCrete wedges. The maximum distance between the top course/row of CMU block and the mine roof shall be 4-inches or less. The construction of subsequent wythes of CMU could be constructed simultaneously with the other wythes of CMU.

23. Install water trap pipe(s), sampling tube(s), and water-monitoring pipes (when required) as specified by the mine when reaching the appropriate heights of seal construction to accommodate same as directed by mine personnel. Mine personnel would be responsible for assuring that the sampling/water/water-monitoring pipes through the seal are installed at the locations and of the nonmetallic material specified in the mine's MSHA-approved, ventilation/sealing plan and in Steps 13 and 14 above. CMU blocks can be cut or shaped to receive the sampling/water/water-monitoring pipes. MICON personnel would grout the pipes/tubes to the surrounding CMU with SIGNUM or HybriBond, assuring that all voids are filled between the pipes/tubes and the CMU throughout the seal's thickness.
24. Stemming or "chinking" of the inby and outby, rib and roof gaps/voids to prevent SIGNUM or HybriBond from leaking outwardly when in their liquid states shall be achieved via MICON's fibrous filler. MICON's fibrous filler, which comes in various diameters, shall be saturated with SIGNUM before being installed in the perimeter voids/gaps. The performance criteria for this stemming or "chinking" method is that the cured, SIGNUM and HybriBond must extend at least flush with the inby and outby faces of the seal and shall fully fill the gaps/voids.
25. The vertical and horizontal seams between the CMU on the inby and outby faces of the seal must be filled with SIGNUM or HybriBond at least flush with the inby and outby faces of the seal. Gaps or voids in these exterior seams shall be filled with SIGNUM, HybriBond, and/or SIGNUM-glued CMU or HybriCrete wedges/pieces.

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Because any gap/void less than 1-inch deep in the vertical and/or horizontal seams of the interior, CMU wythes are subsequently filled up with HybriBond or SIGNUM in Step 22. above, no filling of these 1-inch or less "empty" seams (as shall be done on the inby and outby CMU wythes) has to be done after the completion of each, interior wythe.

26. After the seal is constructed, if leakage is detected around the seal-strata interface, the leakage can be plugged by jam-rodging the suspect portions of the perimeter with SIGNUM, MICON-70, or HybriBond.
27. Both inby and outby faces of the seal can be coated with an MSHA-approved sealant if the mine operator requests same.

#### **ADDITIONAL CONSTRUCTION ALTERNATIVES**

1. In unusual mining conditions, the mine's engineer might recommend and/or the mine operator might request that the mine floor and/or ribs on the outby side of the seal be reinforced with floor and/or rib "mats". MICON's representative, upon making a pre-construction inspection of a proposed seal site, might also recommend floor and/or rib "mats". In such situations, the mine operator must specify in its sealing plan to MSHA that floor and/or rib "mats" would be added on the outby side of the seal. If both an outby floor "mat" and outby rib "mats" have been specified in the MSHA-approved sealing plan, construct the floor "mat" first.
2. If a floor "mat" has been specified in a given seal installation, remove all loose material from the floor and rib, exposing competent rock/coal/strata against which the floor "mat" is to be installed. Voids and/or depressions in the mine floor can be filled/leveled with SIGNUM - with or without #57 stone or pea gravel. The floor "mat" shall be one course high (a minimum, 7-1/4" thick) of solid, CMU block, which would be full glued to one another's abutting, end faces and to the mine floor with SIGNUM. The gap between any two wythes of the floor "mat" (SIGNUM-glued, CMU block) and the gap between the seal's outby face and the inby wythe of the floor "mat" shall be a minimum 1/4" to a maximum of 2" and filled with either SIGNUM or HybriBond (Gaps less than 1/4" are allowed for a maximum 48" in any one row, from rib to rib). After the outby floor "mat" is completed to the size specified, fully fill the gaps between the end blocks and ribs with SIGNUM, HybriBond, SIGNUM-glued, shaped pieces of CMU, and/or SIGNUM-coated, untreated or HybriCrete wedges to firmly tighten the CMU blocks in place and adhere them to the ribs.
3. If rib "mats" have been specified in a given seal installation, remove all loose material from the floor and rib, exposing competent rock/coal/strata against which each rib "mat" is to be installed. Each rib "mat" shall be one course thick (a minimum, 7-1/4"

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thick) of solid, CMU block, which would be glued to one another's abutting, end faces and to the mine floor with SIGNUM. The gap between any two wythes of the rib "mat" (SIGNUM-glued, CMU block) and the gap between the seal's outby face and the inby wythe of each rib "mat" shall be a minimum ¼" to a maximum of 2" and filled with either SIGNUM or HybriBond (Gaps less than ¼" are allowed for a maximum 48" in any one row, from rib to rib). After no more than every other vertical row of a rib "mat" is completed, fully fill the gaps between the end blocks and ribs with SIGNUM, HybriBond, SIGNUM-glued, shaped pieces of CMU, and/or SIGNUM-coated, untreated or HybriCrete wedges to firmly tighten the CMU blocks in place and adhere them to the ribs.

**ADDITIONAL QUALITY CONTROL DETAILS:**

1. No quality control/assurance samples of the CMU, HybriCrete block, or SIGNUM/HybriBond are required to be taken underground and subsequently tested other than what had been mentioned in Step 15. above for the "beam" specimens of CMU/SIGNUM/HybriBond. All quality control on these other building materials are conducted by MICON, a testing laboratory, and/or their manufacturer prior to the materials being sent to the mine. Usually the mine would purchase the CMU used in the seal's construction. In situations where the mine operator purchases the CMU blocks, MICON shall provide the mine operator a list of MICON-sanctioned, suppliers for the CMU. MICON shall not install the MICON Hybrid II seal unless the CMU has come from one of their sanctioned, block manufacturers. MICON requires the mine to supply them with the sanctioned, block manufacturer's "mill sheet", which documents that the quality control samples from the manufactured lot of the CMU have been tested as per ASTM C-140-97 showing that the CMU's compressive strength is at least 1,800-psi. A Technical Support-sanctioned laboratory conducts quality control tests on samples from the manufactured lots of HybriCrete block as per ASTM D-1621-04a; compressive samples are taken and run on at least one block per hundred manufactured. Only those lots of HybriCrete block, which pass ASTM D-1621-04a, are shipped by MICON to the mine. As also mentioned above, the sealed, 55-gallon drums containing the two components of SIGNUM and HybriBond are quality-controlled by their manufacturer (e.g., Dow Chemical) and marked with the appropriate, quality control lot number prior to shipment to MICON. MICON's application/mixing equipment, which is used only by MICON's trained personnel underground to apply SIGNUM and HybriBond, are quality-controlled tested by MICON prior to each seal installation(s) at a given mine. Furthermore, trained personnel under the supervision and direction of a MICON technician are the only ones to use this equipment to construct the MICON HYBRID II seal, and all are trained by the MICON technician to test the equipment for being "off ratio" (See Step 15. for "ratio" test). Shall that equipment be found to be "off-ratio", a back-up application system would be employed by MICON's technicians. Prior to the use of the back-up system, at least three, quality-control "beam" specimens (See Step



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15. Above) would be constructed and stored underground at least 1-hour before being removed for testing.

**CONVERGENCE MEASUREMENTS:**

A convergence measurement shall be taken and recorded during the regular examination of the seal by mine personnel. A permanently placed "pogo" stick or extensometer could be placed at the outby face of the seal, preferably near the center of the mine opening, and extend from the bottom of the first course of CMU at the mine floor to the top of the topmost, CMU course at the mine roof. If this measurement exceeds the maximum allowable convergence specified, check to see that the top and bottom of the "pogo" stick or extensometer extend from the bottom of the first course of CMU to the top of the topmost, CMU course at the mine roof. Readjust the top and bottom of the "pogo" stick or extensometer, if required, and retake the measurement. If this measurement exceeds the maximum allowable convergence specified and/or the outby, CMU wall shows signs of cracking, MICON shall be contacted immediately. If MICON determines that the convergence has compromised the seal's strength, a P.E. must be contacted immediately to evaluate the effects of this convergence and certify the structural integrity of the seal and provide that certification to the MSHA District Office. Cracks/voids in the SIGNUM-glued, outby or inby face, CMU could be repaired by filling the cracks/voids with SIGNUM by a MICON technician.

**120-psi, MICON Hybrid II, Mainline Seal  
 Minimum Thickness Chart**

Pressure (psi)	D.L.F. (#)	Height (ft)	Width (ft)	W/H (ratio)	Min Thick (in)	Maximum Convergence (in)
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120	2	4	18	4.50	26.3	1.44
120	2	4	19	4.75	26.3	1.44
120	2	4	20	5.00	26.3	1.44
120	2	4	21	5.25	26.3	1.44
120	2	4	22	5.50	26.3	1.44
120	2	4	23	5.75	26.3	1.44
120	2	4	24	6.00	26.3	1.44
120	2	4	25	6.25	26.3	1.44
120	2	4	26	6.50	26.3	1.44
120	2	4	27	6.75	26.3	1.44
120	2	4	28	7.00	26.3	1.44
120	2	4.25	18	4.24	27.9	1.53
120	2	4.25	19	4.47	27.9	1.53
120	2	4.25	20	4.71	27.9	1.53
120	2	4.25	21	4.94	27.9	1.53
120	2	4.25	22	5.18	27.9	1.53
120	2	4.25	23	5.41	27.9	1.53
120	2	4.25	24	5.65	27.9	1.53
120	2	4.25	25	5.88	27.9	1.53
120	2	4.25	26	6.12	27.9	1.53
120	2	4.25	27	6.35	27.9	1.53
120	2	4.25	28	6.59	27.9	1.53
120	2	4.5	18	4.00	29.5	1.62
120	2	4.5	19	4.22	29.5	1.62
120	2	4.5	20	4.44	29.5	1.62
120	2	4.5	21	4.67	29.5	1.62
120	2	4.5	22	4.89	29.5	1.62
120	2	4.5	23	5.11	29.5	1.62
120	2	4.5	24	5.33	29.5	1.62
120	2	4.5	25	5.56	29.5	1.62
120	2	4.5	26	5.78	29.5	1.62
120	2	4.5	27	6.00	29.5	1.62
120	2	4.5	28	6.22	29.5	1.62
120	2	4.75	18	3.79	31.2	1.71

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120	2	4.75	19	4.00	31.2	1.71
120	2	4.75	20	4.21	31.2	1.71
120	2	4.75	21	4.42	31.2	1.71
120	2	4.75	22	4.63	31.2	1.71
120	2	4.75	23	4.84	31.2	1.71
120	2	4.75	24	5.05	31.2	1.71
120	2	4.75	25	5.26	31.2	1.71
120	2	4.75	26	5.47	31.2	1.71
120	2	4.75	27	5.68	31.2	1.71
120	2	4.75	28	5.89	31.2	1.71
120	2	5	18	3.60	32.8	1.80
120	2	5	19	3.80	32.8	1.80
120	2	5	20	4.00	32.8	1.80
120	2	5	21	4.20	32.8	1.80
120	2	5	22	4.40	32.8	1.80
120	2	5	23	4.60	32.8	1.80
120	2	5	24	4.80	32.8	1.80
120	2	5	25	5.00	32.8	1.80
120	2	5	26	5.20	32.8	1.80
120	2	5	27	5.40	32.8	1.80
120	2	5	28	5.60	32.8	1.80
120	2	5.25	18	3.43	34.5	1.89
120	2	5.25	19	3.62	34.5	1.89
120	2	5.25	20	3.81	34.5	1.89
120	2	5.25	21	4.00	34.5	1.89
120	2	5.25	22	4.19	34.5	1.89
120	2	5.25	23	4.38	34.5	1.89
120	2	5.25	24	4.57	34.5	1.89
120	2	5.25	25	4.76	34.5	1.89
120	2	5.25	26	4.95	34.5	1.89
120	2	5.25	27	5.14	34.5	1.89
120	2	5.25	28	5.33	34.5	1.89
120	2	5.5	18	3.27	36.1	1.98
120	2	5.5	19	3.45	36.1	1.98
120	2	5.5	20	3.64	36.1	1.98
120	2	5.5	21	3.82	36.1	1.98
120	2	5.5	22	4.00	36.1	1.98
120	2	5.5	23	4.18	36.1	1.98
120	2	5.5	24	4.36	36.1	1.98
120	2	5.5	25	4.55	36.1	1.98
120	2	5.5	26	4.73	36.1	1.98
120	2	5.5	27	4.91	36.1	1.98

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120 psi MICON MAIN LINE HYBRID II SEAL

120	2	5.5	28	5.09	36.1	1.98
120	2	5.75	18	3.13	37.7	2.07
120	2	5.75	19	3.30	37.7	2.07
120	2	5.75	20	3.48	37.7	2.07
120	2	5.75	21	3.65	37.7	2.07
120	2	5.75	22	3.83	37.7	2.07
120	2	5.75	23	4.00	37.7	2.07
120	2	5.75	24	4.17	37.7	2.07
120	2	5.75	25	4.35	37.7	2.07
120	2	5.75	26	4.52	37.7	2.07
120	2	5.75	27	4.70	37.7	2.07
120	2	5.75	28	4.87	37.7	2.07
120	2	6	18	3.00	39.4	2.16
120	2	6	19	3.17	39.4	2.16
120	2	6	20	3.33	39.4	2.16
120	2	6	21	3.50	39.4	2.16
120	2	6	22	3.67	39.4	2.16
120	2	6	23	3.83	39.4	2.16
120	2	6	24	4.00	39.4	2.16
120	2	6	25	4.17	39.4	2.16
120	2	6	26	4.33	39.4	2.16
120	2	6	27	4.50	39.4	2.16
120	2	6	28	4.67	39.4	2.16
120	2	6.25	18	2.88	41.0	2.25
120	2	6.25	19	3.04	41.0	2.25
120	2	6.25	20	3.20	41.0	2.25
120	2	6.25	21	3.36	41.0	2.25
120	2	6.25	22	3.52	41.0	2.25
120	2	6.25	23	3.68	41.0	2.25
120	2	6.25	24	3.84	41.0	2.25
120	2	6.25	25	4.00	41.0	2.25
120	2	6.25	26	4.16	41.0	2.25
120	2	6.25	27	4.32	41.0	2.25
120	2	6.25	28	4.48	41.0	2.25
120	2	6.5	18	2.77	42.7	2.34
120	2	6.5	19	2.92	42.7	2.34
120	2	6.5	20	3.08	42.7	2.34
120	2	6.5	21	3.23	42.7	2.34
120	2	6.5	22	3.38	42.7	2.34
120	2	6.5	23	3.54	42.7	2.34
120	2	6.5	24	3.69	42.7	2.34
120	2	6.5	25	3.85	42.7	2.34

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120 psi MICON MAIN LINE HYBRID II SEAL

120	2	6.5	26	4.00	42.7	2.34
120	2	6.5	27	4.15	42.7	2.34
120	2	6.5	28	4.31	42.7	2.34
120	2	6.75	18	2.67	44.3	2.43
120	2	6.75	19	2.81	44.3	2.43
120	2	6.75	20	2.96	44.3	2.43
120	2	6.75	21	3.11	44.3	2.43
120	2	6.75	22	3.26	44.3	2.43
120	2	6.75	23	3.41	44.3	2.43
120	2	6.75	24	3.56	44.3	2.43
120	2	6.75	25	3.70	44.3	2.43
120	2	6.75	26	3.85	44.3	2.43
120	2	6.75	27	4.00	44.3	2.43
120	2	6.75	28	4.15	44.3	2.43
120	2	7	18	2.57	46.0	2.52
120	2	7	19	2.71	46.0	2.52
120	2	7	20	2.86	46.0	2.52
120	2	7	21	3.00	46.0	2.52
120	2	7	22	3.14	46.0	2.52
120	2	7	23	3.29	46.0	2.52
120	2	7	24	3.43	46.0	2.52
120	2	7	25	3.57	46.0	2.52
120	2	7	26	3.71	46.0	2.52
120	2	7	27	3.86	46.0	2.52
120	2	7	28	4.00	46.0	2.52
120	2	7.25	18	2.48	47.6	2.61
120	2	7.25	19	2.62	47.6	2.61
120	2	7.25	20	2.76	47.6	2.61
120	2	7.25	21	2.90	47.6	2.61
120	2	7.25	22	3.03	47.6	2.61
120	2	7.25	23	3.17	47.6	2.61
120	2	7.25	24	3.31	47.6	2.61
120	2	7.25	25	3.45	47.6	2.61
120	2	7.25	26	3.59	47.6	2.61
120	2	7.25	27	3.72	47.6	2.61
120	2	7.25	28	3.86	47.6	2.61
120	2	7.5	18	2.40	49.2	2.70
120	2	7.5	19	2.53	49.2	2.70
120	2	7.5	20	2.67	49.2	2.70
120	2	7.5	21	2.80	49.2	2.70
120	2	7.5	22	2.93	49.2	2.70
120	2	7.5	23	3.07	49.2	2.70

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120 psi MICON MAIN LINE HYBRID II SEAL

120	2	7.5	24	3.20	49.2	2.70
120	2	7.5	25	3.33	49.2	2.70
120	2	7.5	26	3.47	49.2	2.70
120	2	7.5	27	3.60	49.2	2.70
120	2	7.5	28	3.73	49.2	2.70
120	2	7.75	18	2.32	50.9	2.79
120	2	7.75	19	2.45	50.9	2.79
120	2	7.75	20	2.58	50.9	2.79
120	2	7.75	21	2.71	50.9	2.79
120	2	7.75	22	2.84	50.9	2.79
120	2	7.75	23	2.97	50.9	2.79
120	2	7.75	24	3.10	50.9	2.79
120	2	7.75	25	3.23	50.9	2.79
120	2	7.75	26	3.35	50.9	2.79
120	2	7.75	27	3.48	50.9	2.79
120	2	7.75	28	3.61	50.9	2.79
120	2	8	18	2.25	52.5	2.88
120	2	8	19	2.38	52.5	2.88
120	2	8	20	2.50	52.5	2.88
120	2	8	21	2.63	52.5	2.88
120	2	8	22	2.75	52.5	2.88
120	2	8	23	2.88	52.5	2.88
120	2	8	24	3.00	52.5	2.88
120	2	8	25	3.13	52.5	2.88
120	2	8	26	3.25	52.5	2.88
120	2	8	27	3.38	52.5	2.88
120	2	8	28	3.50	52.5	2.88
120	2	8.25	18	2.18	54.2	2.97
120	2	8.25	19	2.30	54.2	2.97
120	2	8.25	20	2.42	54.2	2.97
120	2	8.25	21	2.55	54.2	2.97
120	2	8.25	22	2.67	54.2	2.97
120	2	8.25	23	2.79	54.2	2.97
120	2	8.25	24	2.91	54.2	2.97
120	2	8.25	25	3.03	54.2	2.97
120	2	8.25	26	3.15	54.2	2.97
120	2	8.25	27	3.27	54.2	2.97
120	2	8.25	28	3.39	54.2	2.97
120	2	8.5	18	2.12	55.8	3.06
120	2	8.5	19	2.24	55.8	3.06
120	2	8.5	20	2.35	55.8	3.06
120	2	8.5	21	2.47	55.8	3.06

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 120 psi MICON MAIN LINE HYBRID II SEAL

120	2	8.5	22	2.59	55.8	3.06
120	2	8.5	23	2.71	55.8	3.06
120	2	8.5	24	2.82	55.8	3.06
120	2	8.5	25	2.94	55.8	3.06
120	2	8.5	26	3.06	55.8	3.06
120	2	8.5	27	3.18	55.8	3.06
120	2	8.5	28	3.29	55.8	3.06
120	2	8.75	18	2.06	57.4	3.15
120	2	8.75	19	2.17	57.4	3.15
120	2	8.75	20	2.29	57.4	3.15
120	2	8.75	21	2.40	57.4	3.15
120	2	8.75	22	2.51	57.4	3.15
120	2	8.75	23	2.63	57.4	3.15
120	2	8.75	24	2.74	57.4	3.15
120	2	8.75	25	2.86	57.4	3.15
120	2	8.75	26	2.97	57.4	3.15
120	2	8.75	27	3.09	57.4	3.15
120	2	8.75	28	3.20	57.4	3.15
120	2	9	19	2.11	59.1	3.24
120	2	9	20	2.22	59.1	3.24
120	2	9	21	2.33	59.1	3.24
120	2	9	22	2.44	59.1	3.24
120	2	9	23	2.56	59.1	3.24
120	2	9	24	2.67	59.1	3.24
120	2	9	25	2.78	59.1	3.24
120	2	9	26	2.89	59.1	3.24
120	2	9	27	3.00	59.1	3.24
120	2	9	28	3.11	59.1	3.24
120	2	9.25	18	1.95	60.6	3.33
120	2	9.25	19	2.05	60.7	3.33
120	2	9.25	20	2.16	60.7	3.33
120	2	9.25	21	2.27	60.7	3.33
120	2	9.25	22	2.38	60.7	3.33
120	2	9.25	23	2.49	60.7	3.33
120	2	9.25	24	2.59	60.7	3.33
120	2	9.25	25	2.70	60.7	3.33
120	2	9.25	26	2.81	60.7	3.33
120	2	9.25	27	2.92	60.7	3.33
120	2	9.25	28	3.03	60.7	3.33
120	2	9.5	18	1.89	62.2	3.42
120	2	9.5	19	2.00	62.3	3.42
120	2	9.5	20	2.11	62.4	3.42

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120 psi MICON MAIN LINE HYBRID II SEAL

120	2	9.5	21	2.21	62.4	3.42
120	2	9.5	22	2.32	62.4	3.42
120	2	9.5	23	2.42	62.4	3.42
120	2	9.5	24	2.53	62.4	3.42
120	2	9.5	25	2.63	62.4	3.42
120	2	9.5	26	2.74	62.4	3.42
120	2	9.5	27	2.84	62.4	3.42
120	2	9.5	28	2.95	62.4	3.42
120	2	9.75	18	1.85	63.8	3.51
120	2	9.75	19	1.95	63.9	3.51
120	2	9.75	20	2.05	64.0	3.51
120	2	9.75	21	2.15	64.0	3.51
120	2	9.75	22	2.26	64.0	3.51
120	2	9.75	23	2.36	64.0	3.51
120	2	9.75	24	2.46	64.0	3.51
120	2	9.75	25	2.56	64.0	3.51
120	2	9.75	26	2.67	64.0	3.51
120	2	9.75	27	2.77	64.0	3.51
120	2	9.75	28	2.87	64.0	3.51
120	2	10	18	1.80	65.2	3.60
120	2	10	19	1.90	65.5	3.60
120	2	10	20	2.00	65.5	3.60
120	2	10	21	2.10	65.6	3.60
120	2	10	22	2.20	65.6	3.60
120	2	10	23	2.30	65.6	3.60
120	2	10	24	2.40	65.6	3.60
120	2	10	25	2.50	65.6	3.60
120	2	10	26	2.60	65.6	3.60
120	2	10	27	2.70	65.6	3.60
120	2	10	28	2.80	65.6	3.60
120	2	10.25	18	1.76	66.6	3.69
120	2	10.25	19	1.85	67.1	3.69
120	2	10.25	20	1.95	67.2	3.69
120	2	10.25	21	2.05	67.3	3.69
120	2	10.25	22	2.15	67.3	3.69
120	2	10.25	23	2.24	67.3	3.69
120	2	10.25	24	2.34	67.3	3.69
120	2	10.25	25	2.44	67.3	3.69
120	2	10.25	26	2.54	67.3	3.69
120	2	10.25	27	2.63	67.3	3.69
120	2	10.25	28	2.73	67.3	3.69
120	2	10.5	18	1.71	68.0	3.78



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120 psi MICON MAIN LINE HYBRID II SEAL

120	2	10.5	19	1.81	68.5	3.78
120	2	10.5	20	1.90	68.8	3.78
120	2	10.5	21	2.00	68.8	3.78
120	2	10.5	22	2.10	68.9	3.78
120	2	10.5	23	2.19	68.9	3.78
120	2	10.5	24	2.29	68.9	3.78
120	2	10.5	25	2.38	68.9	3.78
120	2	10.5	26	2.48	68.9	3.78
120	2	10.5	27	2.57	68.9	3.78
120	2	10.5	28	2.67	68.9	3.78
120	2	10.75	18	1.67	69.3	3.87
120	2	10.75	19	1.77	70.0	3.87
120	2	10.75	20	1.86	70.3	3.87
120	2	10.75	21	1.95	70.5	3.87
120	2	10.75	22	2.05	70.6	3.87
120	2	10.75	23	2.14	70.6	3.87
120	2	10.75	24	2.23	70.6	3.87
120	2	10.75	25	2.33	70.6	3.87
120	2	10.75	26	2.42	70.6	3.87
120	2	10.75	27	2.51	70.6	3.87
120	2	10.75	28	2.60	70.6	3.87
120	2	11	18	1.64	70.6	3.96
120	2	11	19	1.73	71.3	3.96
120	2	11	20	1.82	71.8	3.96
120	2	11	21	1.91	72.1	3.96
120	2	11	22	2.00	72.1	3.96
120	2	11	23	2.09	72.2	3.96
120	2	11	24	2.18	72.2	3.96
120	2	11	25	2.27	72.2	3.96
120	2	11	26	2.36	72.2	3.96
120	2	11	27	2.45	72.2	3.96
120	2	11	28	2.55	72.2	3.96
120	2	11.25	18	1.60	71.8	4.05
120	2	11.25	19	1.69	72.7	4.05
120	2	11.25	20	1.78	73.3	4.05
120	2	11.25	21	1.87	73.6	4.05
120	2	11.25	22	1.96	73.8	4.05
120	2	11.25	23	2.04	73.9	4.05
120	2	11.25	24	2.13	73.9	4.05
120	2	11.25	25	2.22	73.9	4.05
120	2	11.25	26	2.31	73.9	4.05
120	2	11.25	27	2.40	73.9	4.05

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120 psi MICON MAIN LINE HYBRID II SEAL

120	2	11.25	28	2.49	73.9	4.05
120	2	11.5	18	1.57	73.0	4.14
120	2	11.5	19	1.65	74.0	4.14
120	2	11.5	20	1.74	74.7	4.14
120	2	11.5	21	1.83	75.1	4.14
120	2	11.5	22	1.91	75.4	4.14
120	2	11.5	23	2.00	75.4	4.14
120	2	11.5	24	2.09	75.5	4.14
120	2	11.5	25	2.17	75.5	4.14
120	2	11.5	26	2.26	75.5	4.14
120	2	11.5	27	2.35	75.5	4.14
120	2	11.5	28	2.43	75.5	4.14
120	2	11.75	18	1.53	74.1	4.23
120	2	11.75	19	1.62	75.2	4.23
120	2	11.75	20	1.70	76.0	4.23
120	2	11.75	21	1.79	76.6	4.23
120	2	11.75	22	1.87	76.9	4.23
120	2	11.75	23	1.96	77.0	4.23
120	2	11.75	24	2.04	77.1	4.23
120	2	11.75	25	2.13	77.1	4.23
120	2	11.75	26	2.21	77.1	4.23
120	2	11.75	27	2.30	77.1	4.23
120	2	11.75	28	2.38	77.1	4.23
120	2	12	18	1.50	75.2	4.32
120	2	12	19	1.58	76.4	4.32
120	2	12	20	1.67	77.3	4.32
120	2	12	21	1.75	78.0	4.32
120	2	12	22	1.83	78.4	4.32
120	2	12	23	1.92	78.6	4.32
120	2	12	24	2.00	78.6	4.32
120	2	12	25	2.08	78.8	4.32
120	2	12	26	2.17	78.8	4.32
120	2	12	27	2.25	78.8	4.32
120	2	12	28	2.33	78.8	4.32
120	2	12.25	18	1.47	76.3	4.41
120	2	12.25	19	1.55	77.6	4.41
120	2	12.25	20	1.63	78.6	4.41
120	2	12.25	21	1.71	79.3	4.41
120	2	12.25	22	1.80	79.9	4.41
120	2	12.25	23	1.88	80.2	4.41
120	2	12.25	24	1.96	80.3	4.41
120	2	12.25	25	2.04	80.4	4.41

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120 psi MICON MAIN LINE HYBRID II SEAL

120	2	12.25	26	2.12	80.4	4.41
120	2	12.25	27	2.20	80.4	4.41
120	2	12.25	28	2.29	80.4	4.41
120	2	12.5	18	1.44	77.4	4.50
120	2	12.5	19	1.52	78.7	4.50
120	2	12.5	20	1.60	79.8	4.50
120	2	12.5	21	1.68	80.7	4.50
120	2	12.5	22	1.76	81.3	4.50
120	2	12.5	23	1.84	81.7	4.50
120	2	12.5	24	1.92	81.9	4.50
120	2	12.5	25	2.00	81.9	4.50
120	2	12.5	26	2.08	82.1	4.50
120	2	12.5	27	2.16	82.1	4.50
120	2	12.5	28	2.24	82.1	4.50
120	2	12.75	18	1.41	78.4	4.59
120	2	12.75	19	1.49	79.8	4.59
120	2	12.75	20	1.57	81.0	4.59
120	2	12.75	21	1.65	81.9	4.59
120	2	12.75	22	1.73	82.7	4.59
120	2	12.75	23	1.80	83.2	4.59
120	2	12.75	24	1.88	83.5	4.59
120	2	12.75	25	1.96	83.6	4.59
120	2	12.75	26	2.04	83.7	4.59
120	2	12.75	27	2.12	83.7	4.59
120	2	12.75	28	2.20	83.7	4.59
120	2	13	18	1.38	79.3	4.68
120	2	13	19	1.46	80.8	4.68
120	2	13	20	1.54	82.1	4.68
120	2	13	21	1.62	83.2	4.68
120	2	13	22	1.69	84.0	4.68
120	2	13	23	1.77	84.6	4.68
120	2	13	24	1.85	85.0	4.68
120	2	13	25	1.92	85.2	4.68
120	2	13	26	2.00	85.2	4.68
120	2	13	27	2.08	85.3	4.68
120	2	13	28	2.15	85.3	4.68
120	2	13.25	18	1.36	80.3	4.77
120	2	13.25	19	1.43	81.9	4.77
120	2	13.25	20	1.51	83.2	4.77
120	2	13.25	21	1.58	84.4	4.77
120	2	13.25	22	1.66	85.3	4.77
120	2	13.25	23	1.74	86.0	4.77

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120 psi MICON MAIN LINE HYBRID II SEAL

120	2	13.25	24	1.81	86.5	4.77
120	2	13.25	25	1.89	86.8	4.77
120	2	13.25	26	1.96	86.9	4.77
120	2	13.25	27	2.04	87.0	4.77
120	2	13.25	28	2.11	87.0	4.77
120	2	13.5	18	1.33	81.2	4.86
120	2	13.5	19	1.41	82.9	4.86
120	2	13.5	20	1.48	84.3	4.86
120	2	13.5	21	1.56	85.6	4.86
120	2	13.5	22	1.63	86.6	4.86
120	2	13.5	23	1.70	87.3	4.86
120	2	13.5	24	1.78	87.9	4.86
120	2	13.5	25	1.85	88.3	4.86
120	2	13.5	26	1.93	88.5	4.86
120	2	13.5	27	2.00	88.5	4.86
120	2	13.5	28	2.07	88.6	4.86
120	2	13.75	18	1.31	82.1	4.95
120	2	13.75	19	1.38	83.8	4.95
120	2	13.75	20	1.45	85.4	4.95
120	2	13.75	21	1.53	86.7	4.95
120	2	13.75	22	1.60	87.8	4.95
120	2	13.75	23	1.67	88.6	4.95
120	2	13.75	24	1.75	89.3	4.95
120	2	13.75	25	1.82	89.8	4.95
120	2	13.75	26	1.89	90.1	4.95
120	2	13.75	27	1.96	90.1	4.95
120	2	13.75	28	2.04	90.3	4.95
120	2	14	18	1.29	82.9	5.04
120	2	14	19	1.36	84.8	5.04
120	2	14	20	1.43	86.4	5.04
120	2	14	21	1.50	87.8	5.04
120	2	14	22	1.57	89.0	5.04
120	2	14	23	1.64	89.9	5.04
120	2	14	24	1.71	90.7	5.04
120	2	14	25	1.79	91.2	5.04
120	2	14	26	1.86	91.6	5.04
120	2	14	27	1.93	91.7	5.04
120	2	14	28	2.00	91.7	5.04
120	2	14.25	18	1.26	83.7	5.13
120	2	14.25	19	1.33	85.7	5.13
120	2	14.25	20	1.40	87.4	5.13
120	2	14.25	21	1.47	88.9	5.13

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 120 psi MICON MAIN LINE HYBRID II SEAL

120	2	14.25	22	1.54	90.1	5.13
120	2	14.25	23	1.61	91.2	5.13
120	2	14.25	24	1.68	92.0	5.13
120	2	14.25	25	1.75	92.6	5.13
120	2	14.25	26	1.82	93.1	5.13
120	2	14.25	27	1.89	93.3	5.13
120	2	14.25	28	1.96	93.4	5.13
120	2	14.5	18	1.24	84.5	5.22
120	2	14.5	19	1.31	86.6	5.22
120	2	14.5	20	1.38	88.4	5.22
120	2	14.5	21	1.45	89.9	5.22
120	2	14.5	22	1.52	91.2	5.22
120	2	14.5	23	1.59	92.4	5.22
120	2	14.5	24	1.66	93.3	5.22
120	2	14.5	25	1.72	94.0	5.22
120	2	14.5	26	1.79	94.5	5.22
120	2	14.5	27	1.86	94.9	5.22
120	2	14.5	28	1.93	95.0	5.22
120	2	14.75	18	1.22	85.3	5.31
120	2	14.75	19	1.29	87.4	5.31
120	2	14.75	20	1.36	89.3	5.31
120	2	14.75	21	1.42	90.9	5.31
120	2	14.75	22	1.49	92.3	5.31
120	2	14.75	23	1.56	93.5	5.31
120	2	14.75	24	1.63	94.5	5.31
120	2	14.75	25	1.69	95.3	5.31
120	2	14.75	26	1.76	96.0	5.31
120	2	14.75	27	1.83	96.4	5.31
120	2	14.75	28	1.90	96.6	5.31
120	2	15	18	1.20	86.1	5.40
120	2	15	19	1.27	88.3	5.40
120	2	15	20	1.33	90.2	5.40
120	2	15	21	1.40	91.9	5.40
120	2	15	22	1.47	93.4	5.40
120	2	15	23	1.53	94.7	5.40
120	2	15	24	1.60	95.8	5.40
120	2	15	25	1.67	96.6	5.40
120	2	15	26	1.73	97.3	5.40
120	2	15	27	1.80	97.8	5.40
120	2	15	28	1.87	98.2	5.40
120	2	15.25	18	1.18	86.8	5.49
120	2	15.25	19	1.25	89.1	5.49

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120 psi MICON MAIN LINE HYBRID II SEAL

120	2	15.25	20	1.31	91.1	5.49
120	2	15.25	21	1.38	92.9	5.49
120	2	15.25	22	1.44	94.4	5.49
120	2	15.25	23	1.51	95.8	5.49
120	2	15.25	24	1.57	96.9	5.49
120	2	15.25	25	1.64	97.9	5.49
120	2	15.25	26	1.70	98.7	5.49
120	2	15.25	27	1.77	99.3	5.49
120	2	15.25	28	1.84	99.7	5.49
120	2	15.5	18	1.16	87.5	5.58
120	2	15.5	19	1.23	89.8	5.58
120	2	15.5	20	1.29	91.9	5.58
120	2	15.5	21	1.35	93.8	5.58
120	2	15.5	22	1.42	95.4	5.58
120	2	15.5	23	1.48	96.9	5.58
120	2	15.5	24	1.55	98.1	5.58
120	2	15.5	25	1.61	99.1	5.58
120	2	15.5	26	1.68	100.0	5.58
120	2	15.5	27	1.74	100.7	5.58
120	2	15.5	28	1.81	101.1	5.58
120	2	15.75	18	1.14	88.2	5.67
120	2	15.75	19	1.21	90.6	5.67
120	2	15.75	20	1.27	92.8	5.67
120	2	15.75	21	1.33	94.7	5.67
120	2	15.75	22	1.40	96.4	5.67
120	2	15.75	23	1.46	97.9	5.67
120	2	15.75	24	1.52	99.2	5.67
120	2	15.75	25	1.59	100.3	5.67
120	2	15.75	26	1.65	101.3	5.67
120	2	15.75	27	1.71	102.0	5.67
120	2	15.75	28	1.78	102.6	5.67
120	2	16	18	1.13	88.8	5.76
120	2	16	19	1.19	91.3	5.76
120	2	16	20	1.25	93.6	5.76
120	2	16	21	1.31	95.6	5.76
120	2	16	22	1.38	97.4	5.76
120	2	16	23	1.44	99.0	5.76
120	2	16	24	1.50	100.3	5.76
120	2	16	25	1.56	101.5	5.76
120	2	16	26	1.63	102.5	5.76
120	2	16	27	1.69	103.3	5.76
120	2	16	28	1.75	104.0	5.76

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120 psi MICON MAIN LINE HYBRID II SEAL

120	2	16.25	18	1.11	89.5	5.85
120	2	16.25	19	1.17	92.1	5.85
120	2	16.25	20	1.23	94.4	5.85
120	2	16.25	21	1.29	96.5	5.85
120	2	16.25	22	1.35	98.3	5.85
120	2	16.25	23	1.42	100.0	5.85
120	2	16.25	24	1.48	101.4	5.85
120	2	16.25	25	1.54	102.7	5.85
120	2	16.25	26	1.60	103.7	5.85
120	2	16.25	27	1.66	104.6	5.85
120	2	16.25	28	1.72	105.3	5.85
120	2	16.5	18	1.09	90.1	5.94
120	2	16.5	19	1.15	92.7	5.94
120	2	16.5	20	1.21	95.1	5.94
120	2	16.5	21	1.27	97.3	5.94
120	2	16.5	22	1.33	99.2	5.94
120	2	16.5	23	1.39	100.9	5.94
120	2	16.5	24	1.45	102.5	5.94
120	2	16.5	25	1.52	103.8	5.94
120	2	16.5	26	1.58	104.9	5.94
120	2	16.5	27	1.64	105.9	5.94
120	2	16.5	28	1.70	106.7	5.94
120	2	16.75	18	1.07	90.7	6.03
120	2	16.75	19	1.13	93.4	6.03
120	2	16.75	20	1.19	95.9	6.03
120	2	16.75	21	1.25	98.1	6.03
120	2	16.75	22	1.31	100.1	6.03
120	2	16.75	23	1.37	101.9	6.03
120	2	16.75	24	1.43	103.5	6.03
120	2	16.75	25	1.49	104.9	6.03
120	2	16.75	26	1.55	106.1	6.03
120	2	16.75	27	1.61	107.1	6.03
120	2	16.75	28	1.67	108.0	6.03
120	2	17	18	1.06	91.3	6.12
120	2	17	19	1.12	94.1	6.12
120	2	17	20	1.18	96.6	6.12
120	2	17	21	1.24	98.9	6.12
120	2	17	22	1.29	101.0	6.12
120	2	17	23	1.35	102.8	6.12
120	2	17	24	1.41	104.5	6.12
120	2	17	25	1.47	105.9	6.12
120	2	17	26	1.53	107.2	6.12

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 120 psi MICON MAIN LINE HYBRID II SEAL

120	2	17	27	1.59	108.3	6.12
120	2	17	28	1.65	109.3	6.12
120	2	17.25	18	1.04	91.8	6.21
120	2	17.25	19	1.10	94.7	6.21
120	2	17.25	20	1.16	97.3	6.21
120	2	17.25	21	1.22	99.7	6.21
120	2	17.25	22	1.28	101.8	6.21
120	2	17.25	23	1.33	103.7	6.21
120	2	17.25	24	1.39	105.5	6.21
120	2	17.25	25	1.45	107.0	6.21
120	2	17.25	26	1.51	108.3	6.21
120	2	17.25	27	1.57	109.5	6.21
120	2	17.25	28	1.62	110.5	6.21
120	2	17.5	18	1.03	92.4	6.30
120	2	17.5	19	1.09	95.3	6.30
120	2	17.5	20	1.14	98.0	6.30
120	2	17.5	21	1.20	100.4	6.30
120	2	17.5	22	1.26	102.6	6.30
120	2	17.5	23	1.31	104.6	6.30
120	2	17.5	24	1.37	106.4	6.30
120	2	17.5	25	1.43	108.0	6.30
120	2	17.5	26	1.49	109.4	6.30
120	2	17.5	27	1.54	110.6	6.30
120	2	17.5	28	1.60	111.7	6.30
120	2	17.75	18	1.01	92.9	6.39
120	2	17.75	19	1.07	95.9	6.39
120	2	17.75	20	1.13	98.6	6.39
120	2	17.75	21	1.18	101.1	6.39
120	2	17.75	22	1.24	103.4	6.39
120	2	17.75	23	1.30	105.5	6.39
120	2	17.75	24	1.35	107.3	6.39
120	2	17.75	25	1.41	109.0	6.39
120	2	17.75	26	1.46	110.5	6.39
120	2	17.75	27	1.52	111.8	6.39
120	2	17.75	28	1.58	112.9	6.39
120	2	18	18	1.00	93.4	6.48
120	2	18	19	1.06	96.5	6.48
120	2	18	20	1.11	99.3	6.48
120	2	18	21	1.17	101.9	6.48
120	2	18	22	1.22	104.2	6.48
120	2	18	23	1.28	106.3	6.48
120	2	18	24	1.33	108.2	6.48



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 120 psi MICON MAIN LINE HYBRID II SEAL

120	2	18	25	1.39	110.0	6.48
120	2	18	26	1.44	111.5	6.48
120	2	18	27	1.50	112.9	6.48
120	2	18	28	1.56	114.1	6.48
120	2	18.25	18	0.99	93.8	6.57
120	2	18.25	19	1.04	97.0	6.57
120	2	18.25	20	1.10	99.9	6.57
120	2	18.25	21	1.15	102.5	6.57
120	2	18.25	22	1.21	105.0	6.57
120	2	18.25	23	1.26	107.1	6.57
120	2	18.25	24	1.32	109.1	6.57
120	2	18.25	25	1.37	110.9	6.57
120	2	18.25	26	1.42	112.5	6.57
120	2	18.25	27	1.48	113.9	6.57
120	2	18.25	28	1.53	115.2	6.57
120	2	18.5	18	0.97	94.3	6.66
120	2	18.5	19	1.03	97.5	6.66
120	2	18.5	20	1.08	100.5	6.66
120	2	18.5	21	1.14	103.2	6.66
120	2	18.5	22	1.19	105.7	6.66
120	2	18.5	23	1.24	107.9	6.66
120	2	18.5	24	1.30	110.0	6.66
120	2	18.5	25	1.35	111.8	6.66
120	2	18.5	26	1.41	113.5	6.66
120	2	18.5	27	1.46	115.0	6.66
120	2	18.5	28	1.51	116.3	6.66
120	2	18.75	18	0.96	94.7	6.75
120	2	18.75	19	1.01	98.1	6.75
120	2	18.75	20	1.07	101.1	6.75
120	2	18.75	21	1.12	103.9	6.75
120	2	18.75	22	1.17	106.4	6.75
120	2	18.75	23	1.23	108.7	6.75
120	2	18.75	24	1.28	110.8	6.75
120	2	18.75	25	1.33	112.7	6.75
120	2	18.75	26	1.39	114.5	6.75
120	2	18.75	27	1.44	116.0	6.75
120	2	18.75	28	1.49	117.4	6.75
120	2	19	18	0.95	95.2	6.84
120	2	19	19	1.00	98.6	6.84
120	2	19	20	1.05	101.7	6.84
120	2	19	21	1.11	104.5	6.84
120	2	19	22	1.16	107.1	6.84

MSHA Approval Number: 120M-11.1  
 120 psi MICON MAIN LINE HYBRID II SEAL

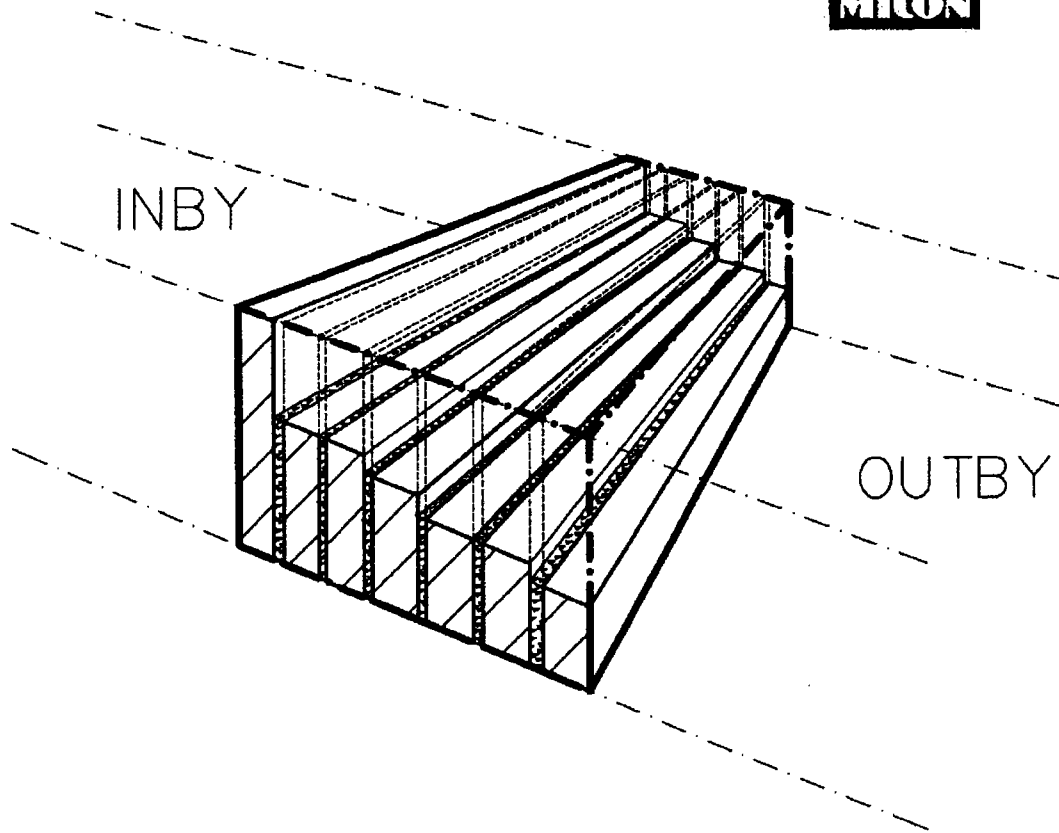
120	2	19	23	1.21	109.5	6.84
120	2	19	24	1.26	111.7	6.84
120	2	19	25	1.32	113.6	6.84
120	2	19	26	1.37	115.4	6.84
120	2	19	27	1.42	117.0	6.84
120	2	19	28	1.47	118.5	6.84
120	2	19.25	18	0.94	95.6	6.93
120	2	19.25	19	0.99	99.0	6.93
120	2	19.25	20	1.04	102.2	6.93
120	2	19.25	21	1.09	105.1	6.93
120	2	19.25	22	1.14	107.8	6.93
120	2	19.25	23	1.19	110.2	6.93
120	2	19.25	24	1.25	112.5	6.93
120	2	19.25	25	1.30	114.5	6.93
120	2	19.25	26	1.35	116.4	6.93
120	2	19.25	27	1.40	118.0	6.93
120	2	19.25	28	1.45	119.5	6.93
120	2	19.5	18	0.92	96.0	7.02
120	2	19.5	19	0.97	99.5	7.02
120	2	19.5	20	1.03	102.7	7.02
120	2	19.5	21	1.08	105.7	7.02
120	2	19.5	22	1.13	108.4	7.02
120	2	19.5	23	1.18	111.0	7.02
120	2	19.5	24	1.23	113.2	7.02
120	2	19.5	25	1.28	115.3	7.02
120	2	19.5	26	1.33	117.3	7.02
120	2	19.5	27	1.38	119.0	7.02
120	2	19.5	28	1.44	120.6	7.02
120	2	19.75	18	0.91	96.3	7.11
120	2	19.75	19	0.96	99.9	7.11
120	2	19.75	20	1.01	103.2	7.11
120	2	19.75	21	1.06	106.3	7.11
120	2	19.75	22	1.11	109.1	7.11
120	2	19.75	23	1.16	111.7	7.11
120	2	19.75	24	1.22	114.0	7.11
120	2	19.75	25	1.27	116.2	7.11
120	2	19.75	26	1.32	118.1	7.11
120	2	19.75	27	1.37	119.9	7.11
120	2	19.75	28	1.42	121.6	7.11
120	2	20	18	0.90	96.7	7.20
120	2	20	19	0.95	100.4	7.20
120	2	20	20	1.00	103.7	7.20

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120 psi MICON MAIN LINE HYBRID II SEAL

120	2	20	21	1.05	106.8	7.20
120	2	20	22	1.10	109.7	7.20
120	2	20	23	1.15	112.3	7.20
120	2	20	24	1.20	114.8	7.20
120	2	20	25	1.25	117.0	7.20
120	2	20	26	1.30	119.0	7.20
120	2	20	27	1.35	120.9	7.20
120	2	20	28	1.40	122.5	7.20

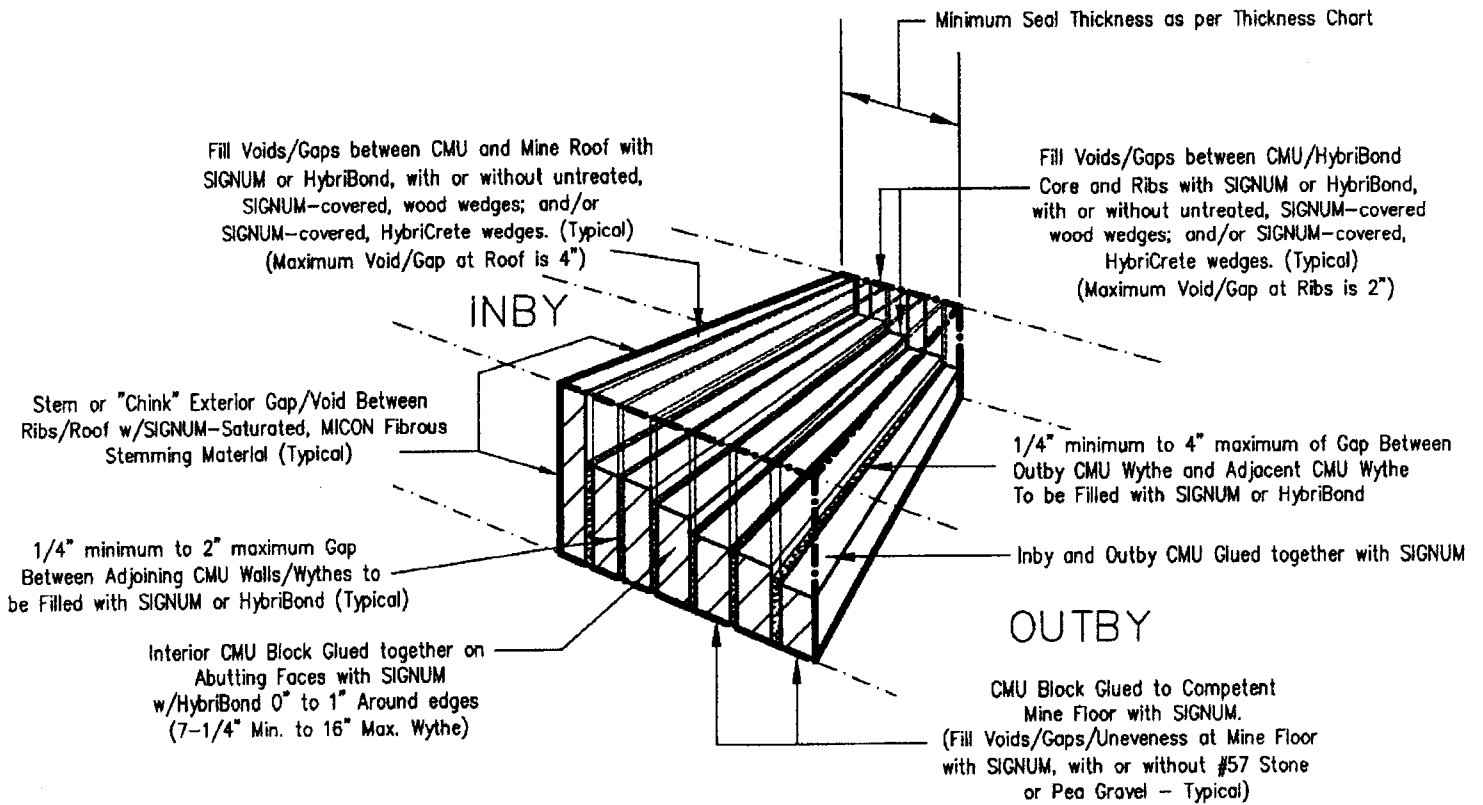
NOTE: Seals up to 10-ft high, which contain up to three (3),  
12-inch Pipes, Shall be a Minimum 72.6" Thick

MSHA Approval Number: 120M-11.1  
120 psi MICON MAIN LINE HYBRID II SEAL  
Covered by U.S. Patent No. 5,385,504 and/or  
one or more pending U.S. and international patent applications



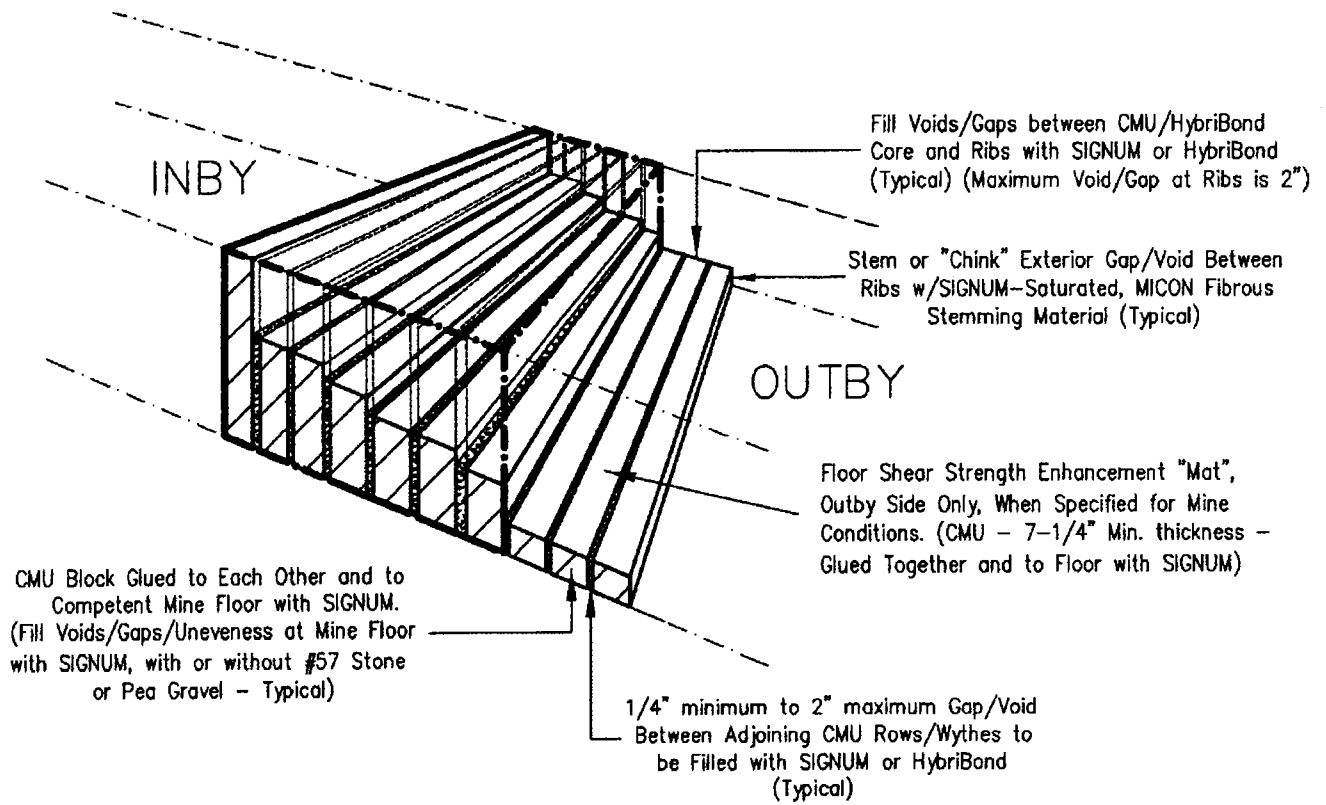
TYPICAL, ISOMETRIC VIEW OF MICON HYBRID II SEAL  
DURING AND AFTER ITS CONSTRUCTION (N.T.S.)

**MSHA Approval Number: 120M-11.1**  
**120 psi MICON MAIN LINE HYBRID II SEAL**  
**Covered by U.S. Patent No. 5,385,504 and/or**  
**one or more pending U.S. and international patent applications**



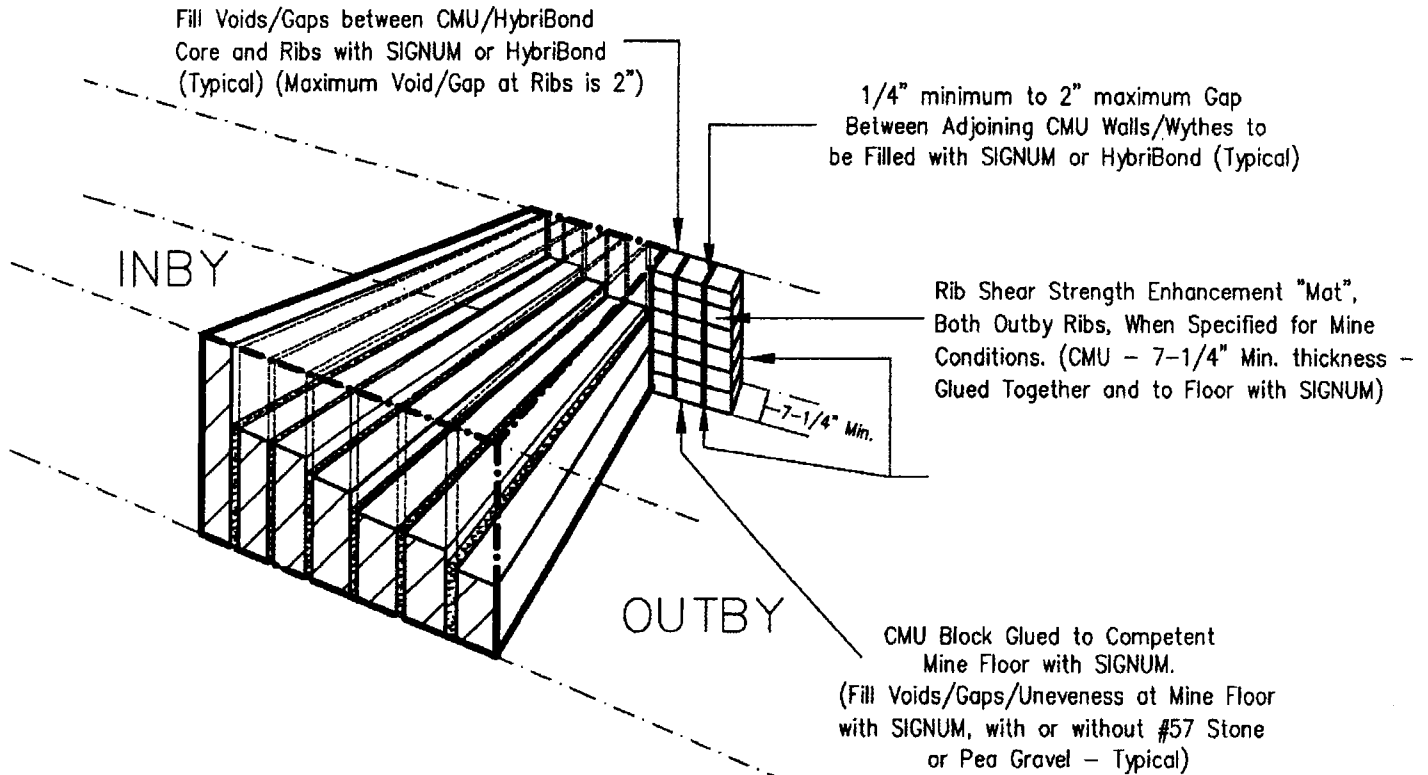
**TYPICAL, ISOMETRIC VIEW OF MICON HYBRID II SEAL  
DURING AND AFTER ITS CONSTRUCTION (N.T.S.)**

MSHA Approval Number: 120M-11.1  
 120 psi MICON MAIN LINE HYBRID II SEAL  
 Covered by U.S. Patent No. 5,385,504 and/or  
 one or more pending U.S. and international patent applications



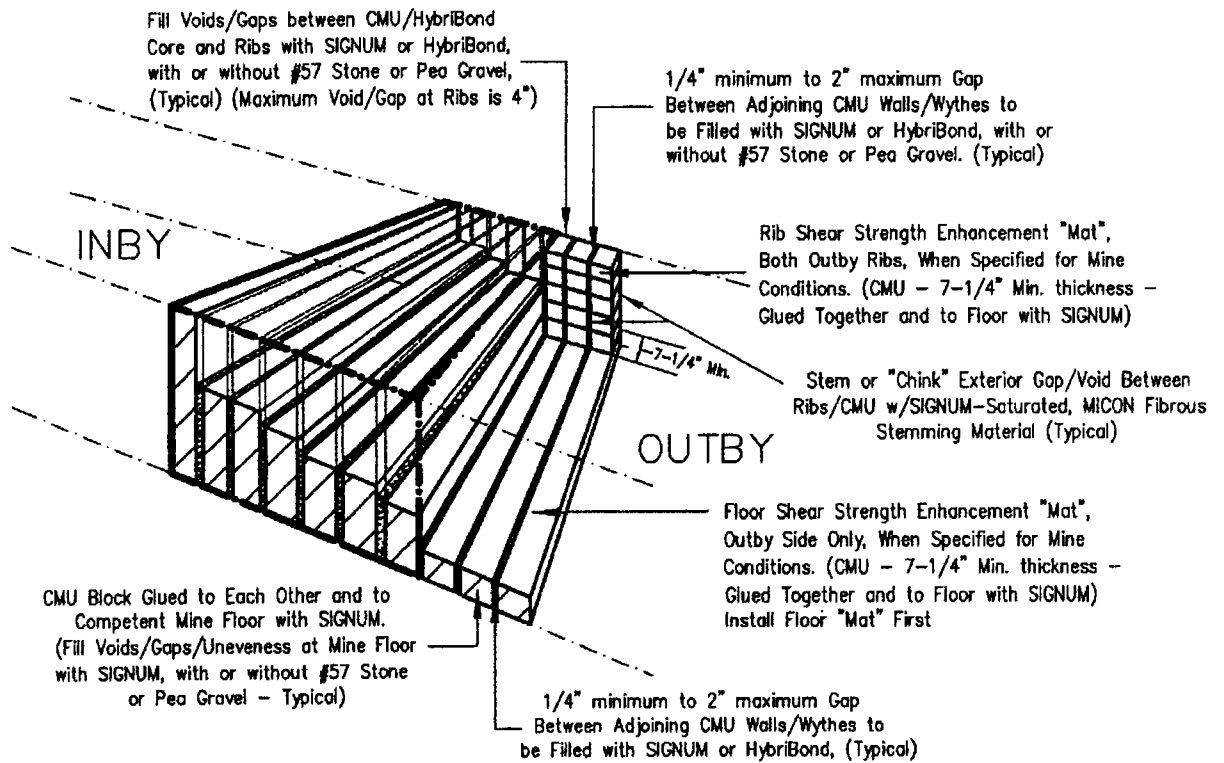
TYPICAL, ISOMETRIC VIEW OF MICON HYBRID II SEAL  
 WITH FLOOR MATS (N.T.S.)

MSHA Approval Number: 120M-11.1  
 120 psi MICON MAIN LINE HYBRID II SEAL  
 Covered by U.S. Patent No. 5,385,504 and/or  
 one or more pending U.S. and international patent applications



TYPICAL, ISOMETRIC VIEW OF MICON HYBRID II SEAL  
 WITH RIB MATS (N.T.S.)

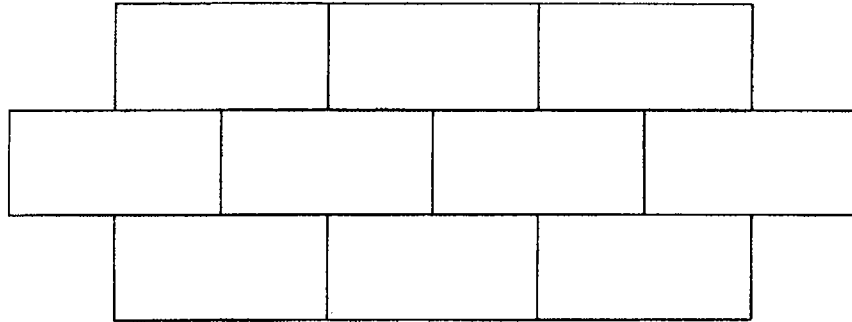
**MSHA Approval Number: 120M-11.1**  
**120 psi MICON MAIN LINE HYBRID II SEAL**  
 Covered by U.S. Patent No. 5,385,504 and/or  
 one or more pending U.S. and international patent applications



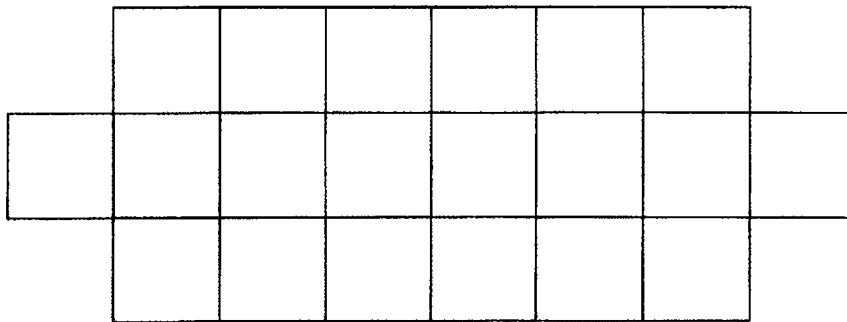
**TYPICAL, ISOMETRIC VIEW OF MICON HYBRID II SEAL  
 WITH FLOOR AND RIB MATS (N.T.S.)**



**MSHA Approval Number: 120M-11.1**  
**120 psi MICON MAIN LINE HYBRID II SEAL**  
**Covered by U.S. Patent No. 5,385,504 and/or**  
**one or more pending U.S. and international patent applications**

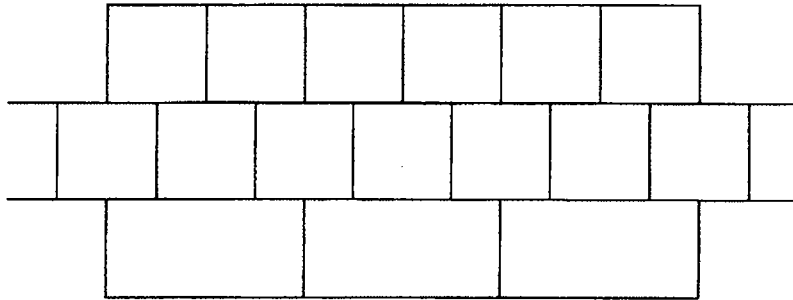


**TYPICAL RUNNING BOND WYTHE – 7-1/4" Min. to 16" Max. THICK**  
**(N.T.S.)**

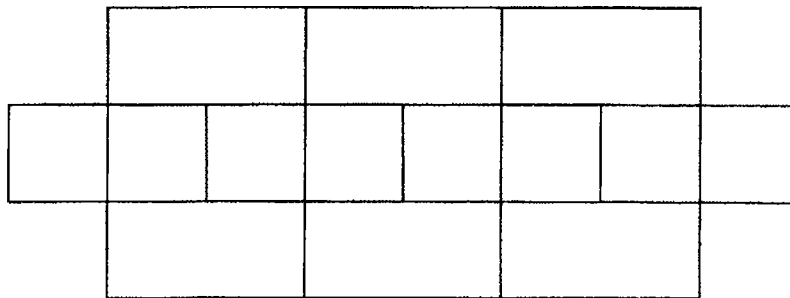


**TYPICAL STACK BOND WYTHE – 7-1/4" Min. to 16" Max. THICK**  
**(N.T.S.)**

MSHA Approval Number: 120M-11.1  
120 psi MICON MAIN LINE HYBRID II SEAL  
Covered by U.S. Patent No. 5,385,504 and/or  
one or more pending U.S. and international patent applications

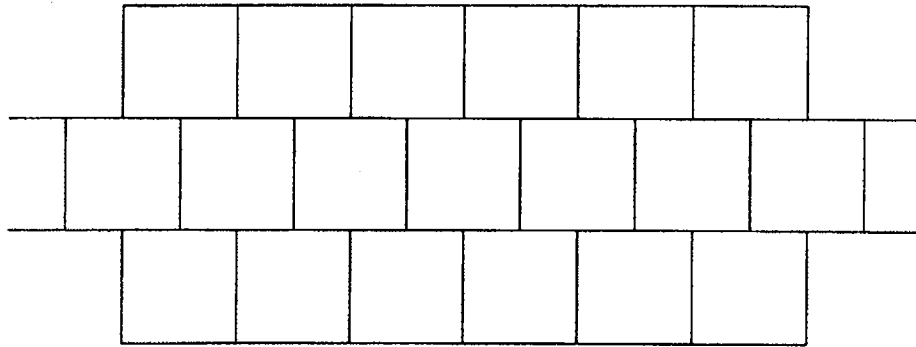


TYPICAL COMMON/RUNNING BOND WYTHER - 7-1/4" Min. to 16" Max. THICK  
(N.T.S.)



TYPICAL COMMON/STACK BOND WYTHER - 7-1/4" Min. to 16" Max. THICK  
(N.T.S.)

**MSHA Approval Number: 120M-11.1**  
**120 psi MICON MAIN LINE HYBRID II SEAL**  
**Covered by U.S. Patent No. 5,385,504 and/or**  
**one or more pending U.S. and international patent applications**



**TYPICAL RUNNING BOND WYTHE – 7-1/4" Min. to 16" Max. THICK**  
**(N.T.S.)**