

Meeting Minutes: Plumbing Board

Date: April 20, 2021
Time: 9:30 a.m.
Minutes by: Lyndy Logan
Location: WebEx Event

Members

1. Sam Arnold
2. Michael Dryke
3. Kent Erickson
4. Mike Herman (Vice Chair)
5. Rick Jacobs (Chair)
6. Natasha Lawrence
7. Justin Parizek
8. Troy Seitz
9. Scott Stewart
10. Cathy Tran (DLI Commissioner's Designee)
11. Rick Wahlen
David Weum (MDH Commissioner's Designee)

Members Absent

Richard Becker (Secretary)
Shane Willis

DLI Staff & Visitors

Suzanne Todnem (Gen. Counsel, DLI)
Lyndy Logan (DLI)
Charlie Durenberger (DLI)
Brad Jensen (DLI)
Jim Peterson (DLI)
Anita Anderson (MDH)
Alex Bartley (MDH)
Scott Eggen (City of Minneapolis)
Nick Erickson (Housing First)
Gary Gauthier (ICC)
Adam Hanson (ABC)
Mike Johnson (J-Berd Mechanical)
Stephanie Menning (MUCA)
Gary Schick (City of Rochester)
Scott Thompson (My Plumbing Training)

1. **Call to Order, Chair Presiding**

- A. The meeting was called to order by Chair Jacobs at 9 AM. Roll call was taken by the Vice Chair and a quorum was declared with 11 of 13 voting members, and one non-voting member, present via WebEx.
- B. Announcements – Introductions (members and attendees)
Statement from the Chair and/or Attorney regarding virtual meetings: Thank you for joining this remote meeting via WebEx. As the board chair, I have determined today's meeting is via the WebEx platform due to the current status of the state of Minnesota operating under the peacetime emergency due to the COVID-19 pandemic. Per Minnesota Statutes, section 13D.021, of the Open Meeting Law, electronic meetings are acceptable when an in-person meeting is "not practical or prudent because of a health pandemic or an emergency declared under Chapter 12."
Board members and attendees present on this WebEx are able to hear all discussions. All handouts discussed and WebEx instructions are posted on the Board's website at: <https://www.dli.mn.gov/about-department/boards-and-councils/plumbing-board>
All votes will be by roll call.

- C. Journal of Votes – Per Minnesota Statutes 13D.01, Subd. 4, the vote of each member will be recorded in a journal made available to the public.
- D. WebEx instructions/procedures were read aloud.

2. Approval of meeting agenda

A motion was made by Herman, seconded by Lawrence, to approve the agenda as presented. The roll call vote was unanimous with 11 votes in favor; the motion carried.

3. Approval of previous meeting minutes

- A. Plumbing Board regular meeting – January 19, 2021
A motion was made by Herman, seconded by Seitz, to approve the January 19, 2021, regular meeting minutes as presented. The roll call vote was unanimous with 11 votes in favor; the motion carried.
- B. Plumbing Board special meeting – March 25, 2021
A motion was made by Herman, seconded by Erickson, to approve the March 25, 2021, special meeting minutes with the addition of Stephanie Menning (MUCA) added under Visitors. The roll call vote was unanimous with 11 votes in favor; the motion carried.

4. Regular Business

Approval of expense reports – Jacobs approved.

5. Committee Reports

- A. **Department Updates**
Tran said on January 22, 2021, Governor Walz appointed Roslyn Robertson as DLI's Commissioner. Nicole Blissenbach was promoted to Deputy Commissioner and Kate Perushek was promoted to Assistant Commissioner.
- B. **Enforcement & Licensing update**
 - Charlie Durenberger, CCLD Assistant Director, Manager of Enforcement and Licensing unit, gave an update – see **Attachment A**.
 - Plumbing Enforcement Actions can be found on DLI's website at: <http://www.dli.mn.gov/business/plumbing-contractors/plumbing-enforcement-actions>
 - Durenberger gave an update on Master Plumber license renewals.
- C. **Construction Codes Advisory Council (CCAC)**
A tentative meeting is scheduled for May 27, 2021.

6. Special Business

- A. Legislation Update
 - Suzanne Todnem provided an update. The Senate passed their Jobs Omnibus bill on Thursday. While no plumbing related provisions are included, Senator Rarick spoke on the Senate floor and said he has been working on three issues and wants to find consensus. Two of those are plumbing related. The first, SF2116, the Board discussed at the last Special meeting, regarding licensing requirements for servicing and installing chemical dispensing systems. During his comments, Senator Rarick acknowledged that the Plumbing Board has concerns, but said he

would continue to work on the issue. The second issue he raised was [SF183](#), regulating backflow prevention rebuilder and tester devices. The third was an electrical-related issue. Senator Rarick did not get into details about the three proposals but indicated he is not giving up and does want to find a solution. It is unclear whether he is seeking resolution yet this session or whether he will work with stakeholders over the interim and bring them up next year.

- In the House, the Jobs/Labor Omnibus bill will be heard on the floor today. No plumbing-related provisions are included in this bill.
- After both bills pass, the next step will be conference committee where the members negotiate the differences in the bills. Sometimes there are amendments offered, but rules require that a standalone bill must first pass either the full House or Senate to be eligible for inclusion as an amendment to another bill in conference committee. As such, it seems unlikely (but still possible) that a plumbing-related bill such as the chemical dispensing systems or backflow prevention devices would be attached to the omnibus in conference committee. The Legislature must adjourn by May 17.
- Todnem referred to the email Charlie Ismert sent Board members on March 25, 2021, regarding SF 1972 – see **Attachment B**. Chair Jacobs asked for comments/questions but there was no discussion.

B. [Chapter 4714 rulemaking update](#)

Todnem said the Notice of Adoption was published on March 22, 2021. Due to the 270-day lag between this date and the effective date, the new Plumbing Code would become effective Dec. 17, 2021. The new code book will be available this summer.

7. Complaints

Nothing to report

8. Open Forum

Mike Johnson, J-Berd Mechanical, addressed the Board regarding approval of Provent's EZ Flex Mechanical Coupling for expansion in PVC or ABS DWV stacks – see **Attachment C**.

- Chair Jacobs said the Board does not approve or reference specific products. The Authority Having Jurisdiction (AHJ) could approve; however, it would need to be listed as an alternate and approval would be on a case-by-case basis.
- Tran stated that the Plumbing Code requires no less than a 15-minute test. Under section 5.2.2, based on IAPMO's test, it was tested under 100 degrees and it could be exposed to a higher temperature. It could be considered under section 5.3.2 but there seems to be a discrepancy in hydro test requirements. Have any alternates been proposed by J-Berd? Johnson said they have not proposed any alternates.
- Chair Jacobs said the referenced product was previously installed in a jurisdiction where it did not perform well. Alternative guides were required to keep it in line due to expansion and contraction.

9. Correspondence

Email from Charlie Ismert was previously discussed under Special Business.

10. Board Discussion

No discussion

11. Announcements

Next regularly scheduled meeting in 2021, 9:30 a.m., in-person or via WebEx TBD

- July 20, 2021 (Annual meeting – officer nominations)
- October 19, 2021

12. Adjournment

A motion was made by Herman, seconded by Erickson, to adjourn the meeting at 10:20 a.m.

The roll call vote was unanimous with 11 votes in favor of the motion; the motion passed.

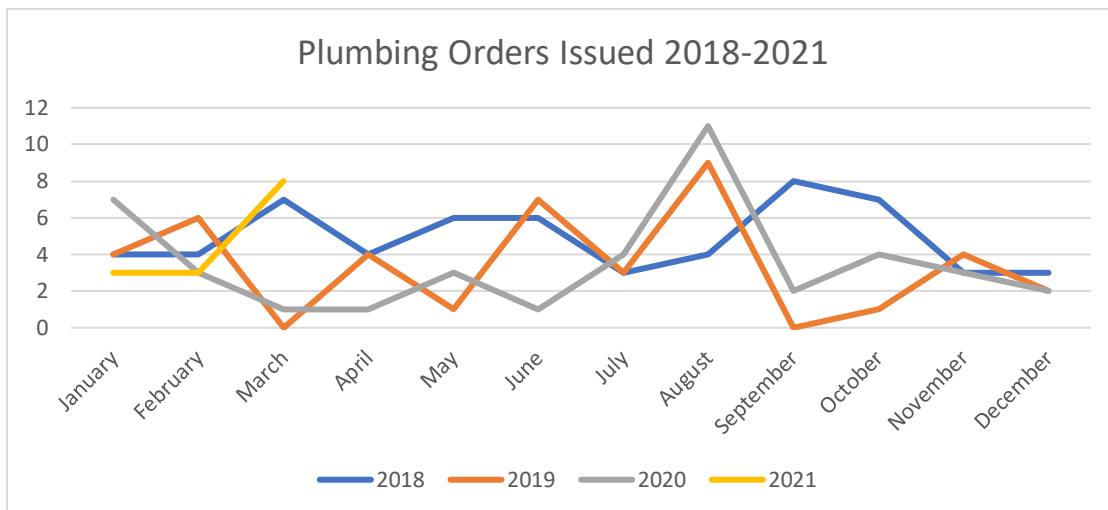
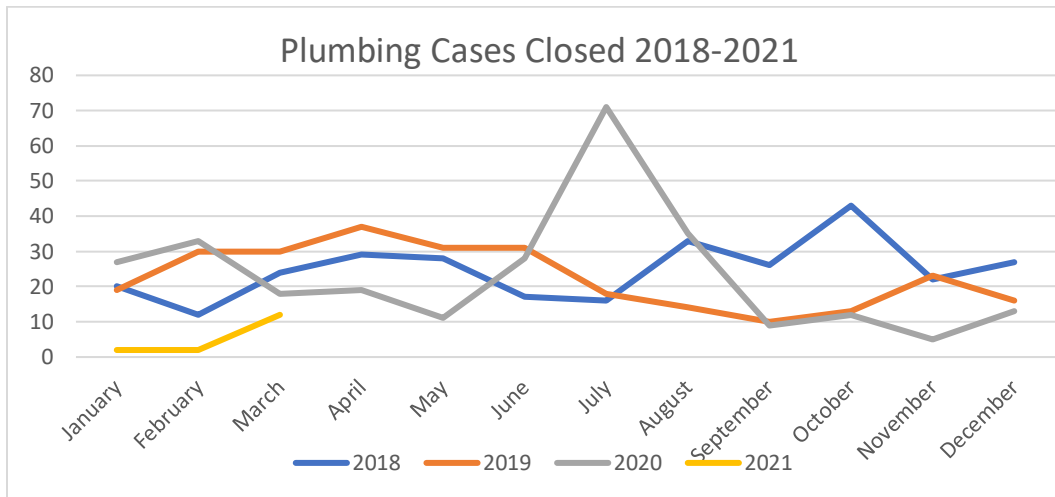
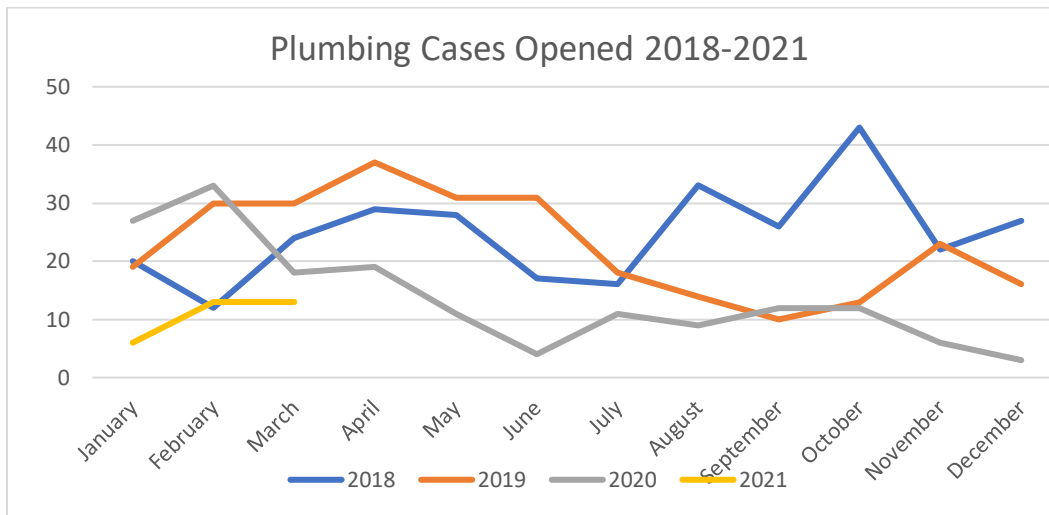
Respectfully submitted,

Mike Herman

Mike Herman

Vice-Chair

CCLD PLUMBING ENFORCEMENT STATISTICS 2018-2021



Cases Active April 19, 2021: 60

CCLD LICENSE EXAM PASS RATES 2016-2020

(# passed/total exams)

ELECTRICAL

EXAM	2016	2017	2018	2019	2020	5 Year Avg.
Journey	34% (300/887)	35% (397/1,144)	29% (292/991)	39% (492/1,271)*	36% (396/1,089)	35% (1,877/5,382)
Master	49% (107/217)	44% (165/377)	44% (136/311)	45% (178/399)	45% (136/166)	49% (722/1,470)
PLT	44% (102/231)	63% (152/241)	50% (118/234)	48% (131/272)	47% (84/179)	51% (587/1,157)
Satellite	21% (6/28)	60% (3/5)	100% (2/2)	100% (1/1)	33% (1/3)	33% (13/39)

*Number of exam questions reduced from 100 to 80 in March 2019

ELEVATOR

EXAM	2016	2017	2018	2019	2020	5 Year Avg.
Journey	53% (8/15)	60% (24/40)	80% (20/25)	65% (13/20)	75% (36/48)	68% (101/148)
Master	100% (2/2)	0	83% (5/6)	50% (2/4)	100% (4/4)	81% (13/16)

RESIDENTIAL BUILDING CONTRACTOR

EXAM	2016	2017	2018	2019	2020	5 Year Avg.
Builder	65% (647/994)	61% (675/1,098)	61% (687/1,127)	59% (746/1,262)	61% (524/853)	61% (3,279/5,334)
Remodeler	46% (26/57)	50% (32/64)	58% (30/52)	54% (32/59)	46% (16/35)	51% (136/267)
Roofer	62% (13/21)	62% (16/26)	67% (14/21)	55% (18/33)	68% (19/28)	62% (80/129)
MH Installer	25% (1/4)	50% (3/6)	30% (3/10)	73% (11/15)	80% (4/5)	55% (22/40)

PLUMBING

EXAM	2016	2017	2018	2019	2020	5 Year Avg.
Journey	75% (94/123)	81% (165/204)	76% (185/242)	71% (177/249)	77% (174/225)	76% (795/1,043)
Master	78% (57/73)	84% (76/90)	74% (63/85)	66% (52/79)	84% (48/57)	77% (296/384)

HPP

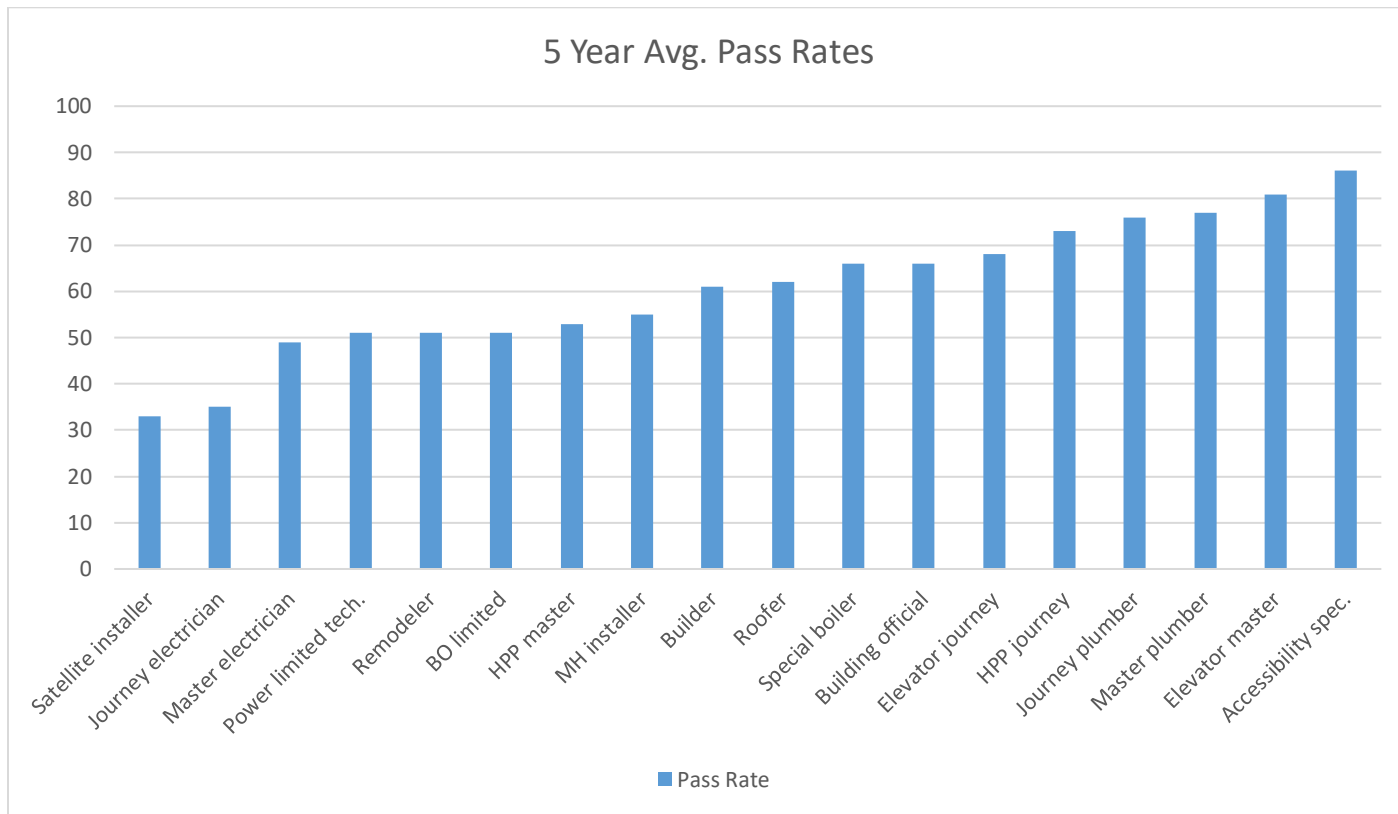
EXAM	2016	2017	2018	2019	2020	5 Year Avg.
Journey	90% (86/96)	71% (82/115)	74% (121/163)	67% (132/196)	71% (117/164)	73% (538/734)
Master	57% (8/14)	61% (11/18)	57% (13/23)	48% (10/21)	44% (8/18)	53% (50/94)

BOILER

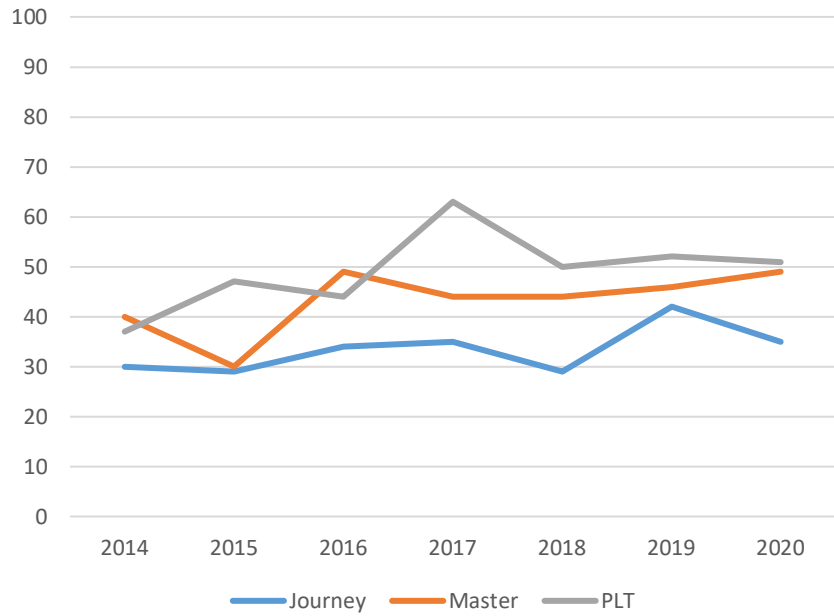
EXAM	2016	2017	2018	2019	2020	5 Year Avg.
Special	63% (1,331/2,114)	69% (1,576/2,294)	67% (1,508/2,237)	63% (1,376/2,193)	65% (873/1,336)	66% (6,664/10,174)

BUILDING OFFICIAL

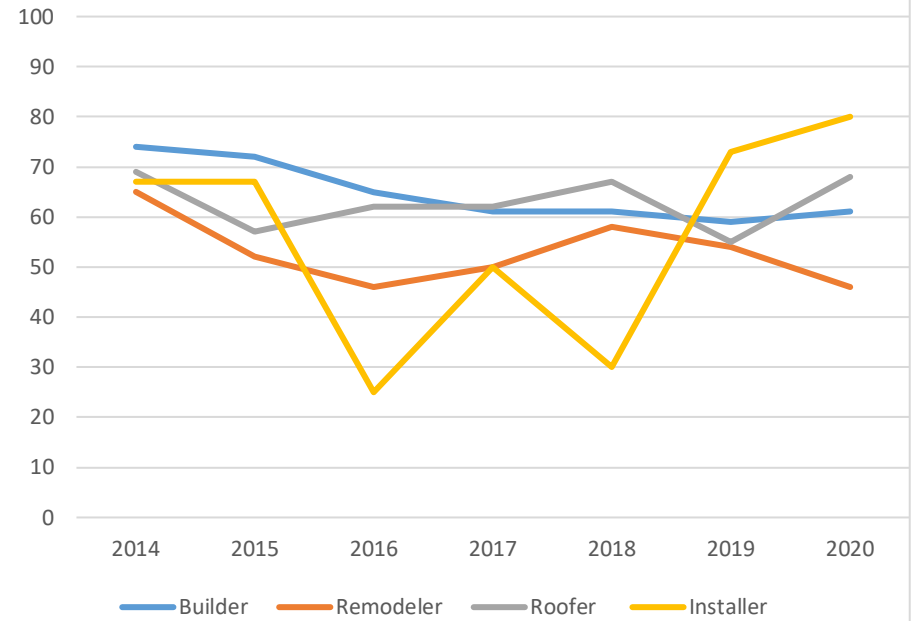
EXAM	2016	2017	2018	2019	2020	5 Year Avg.
Building official	73% (22/30)	60% (21/35)	72% (33/46)	62% (34/55)	67% (24/36)	66% (134/202)
BO limited	58% (50/86)	56% (51/91)	50% (54/108)	48% (49/103)	40% (24/60)	51% (228/448)
Accessibility	78% (7/9)	71% (5/7)	78% (7/9)	91% (32/35)	100% (4/4)	86% (55/64)



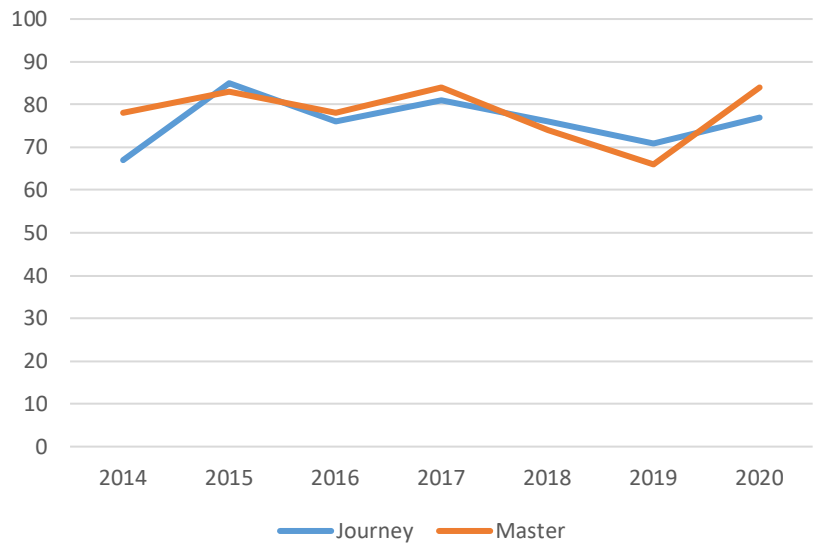
Electrical Exam Pass Rates



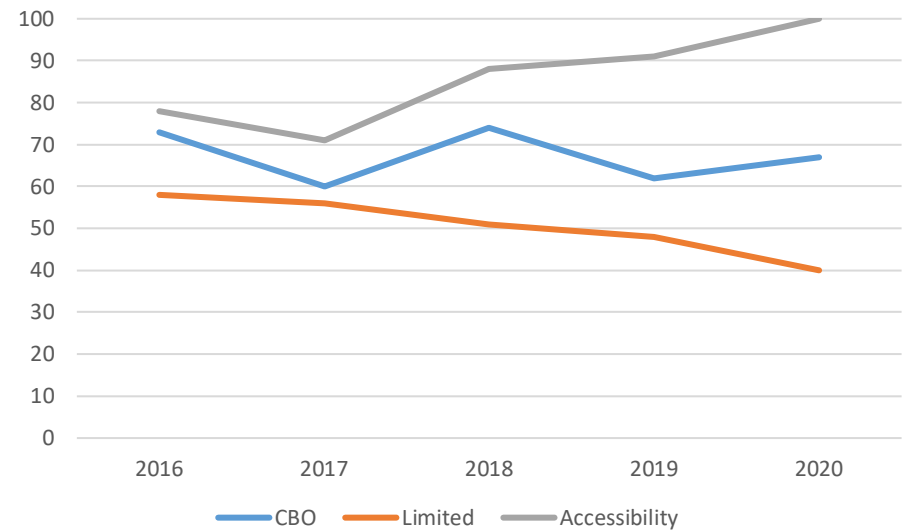
RBC Exam Pass Rates

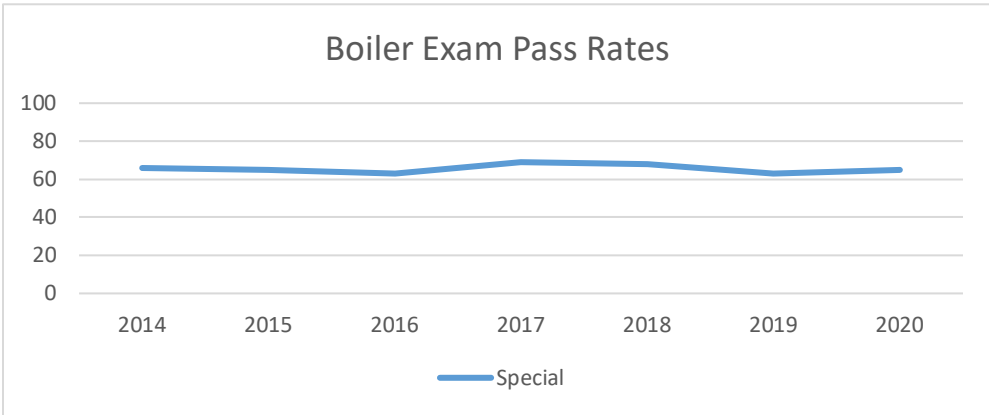
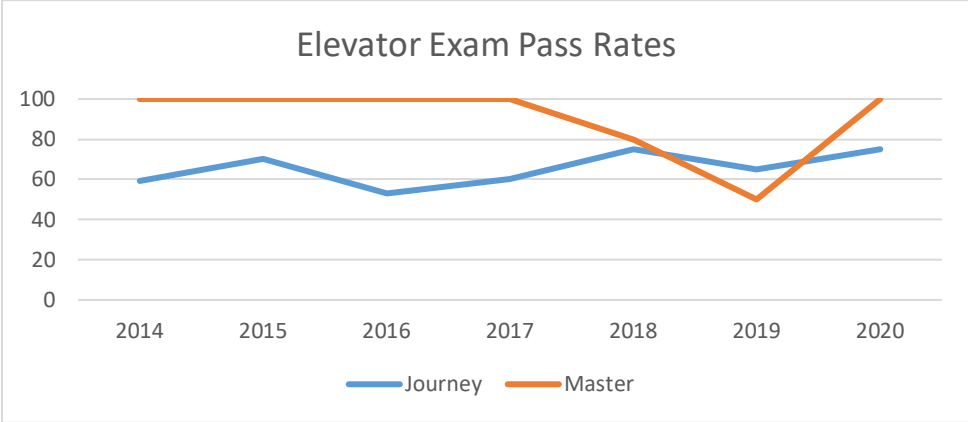
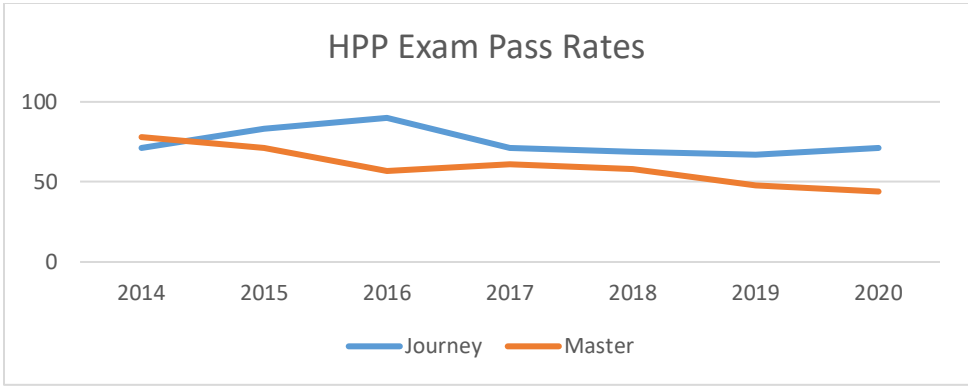


Plumbing Exam Pass Rates



Building Official Exam Pass Rates





2021 PLUMBING ENFORCEMENT ACTIONS

Through April 19, 2021

A Consent Order is not a finding of fact or an admission of guilt.

**For more information on specific orders, please call
(651) 284-5069 or send an email to DLI.contractor@state.mn.us**

ABAT Builders, Inc. and Anthony Czupryna

Rosemount, IL

*Administrative Order: Cease and desist from unlicensed electrical contractor and plumbing contractor activities - \$10,000 monetary penalty – 1/27/2021

*ELE2101-0002/CMW

AMPS Future Inc. dba Mr. Rooter of the Twin Cities – PC735337

Hudson, WI

*Consent Order: Censure; \$2,000 monetary penalty with \$1,700 stayed with conditions – 3/24/2021

*PLB2102-0005/MG

Andree Building Concepts LLC and Trevor J. Andree

Austin, MN

*Consent Cease and Desist Order: Cease and desist from unlicensed residential building contractor, remodeler, or roofer activity; cease and desist from unlicensed plumbing work; \$5,000 monetary penalty with \$4,000 stayed – 3/04/2021

*RBC2101-0001/JM

Bloom, Sherman

Little Falls, MN

*Consent Cease and Desist Order: Cease and desist from performing the work of a mechanical contractor until required bond is submitted; \$2,000 monetary penalty stayed – 3/25/2021

*PLB2102-0013/MG

Caruthers, Andrew Leonard, Jr., dba Andrews Handyman Services and TC HandyMan Services

New Hope, MN

*Administrative Order: Cease and desist from unlicensed residential building contractor, remodeler, and roofer activity and cease and desist from unlicensed plumbing and electrical activity; \$3,000 monetary penalty – 2/12/2021

*MLT2004-0004/TDO

Curney, Craig W. – PJ141381

Minneapolis, MN

*Consent Cease and Desist Order: Censure; cease and desist from unlicensed plumbing work; stay of \$750 from previous Consent Order lifted, remaining \$1,250 from previous Consent Order and an additional \$10,000 monetary penalty stayed – 3/12/2021

*PLB2009-0005/MG

Fenger, Charles

Sanborn, MN

*Consent Cease and Desist Order: Cease and desist from unlicensed plumbing work; \$3,000 monetary penalty stayed for five years – 4/14/2021

*PLB1904-00018/MG

GBG Mechanical LLC

Chaska, MN

*Consent Order: Licensing Order vacated; censure; \$2,000 monetary penalty with \$1,700 stayed – 1/27/2021

*PLB2007-0004/MG

Hansen, Rodd T.

Maple Grove, MN

*Administrative Order: Cease and desist from unlicensed residential building contractor, remodeler, and roofer activity and cease and desist from unlicensed plumber activity; \$6,000 monetary penalty – 1/06/2021

*RBC2004-0011/MG and MLT2007-0003/MG

MH Plumbing, Inc. and Mark H. Horner – PC643853 and PM065689

Isanti, MN

*Consent Order: Respondents censured; \$5,000 monetary penalty with \$3,000 stayed with conditions – 3/18/2021

*PLB2102-0012/CMW

Noska Plumbing & Heating, Inc. and Craig Noska, Individually

Browerville, MN

*Consent Cease and Desist Order: Administrative Order vacated: Respondents shall cease and desist from performing or offering to perform plumbing work without the proper licensing and bond; \$5,000 monetary penalty with \$4,000 stayed – 3/24/2020

*PLB2010-0010/MG

Vin Zant, James Paul – QB692478 and PM065956

Oakdale, MN

*Consent Order: Censure; \$10,000 monetary penalty stayed with conditions – 2/25/2021

*RBC2012-0019/ALF

Email sent to Plumbing Board members, 3/25/2021

(BCC: Plumbing Board Members),

I wasn't allowed to comment this morning as an attendee so pardon the email follow up. Some of you might remember me as I worked with DLI over 10 years ago and flew in several times while the Uniform Plumbing Code was being adopted.

I "raised my hand" during the discussion this morning (regarding Bill 1972) because there was a question raised regarding precedent where I felt I had some insight. From my perspective, the language in the proposed bill appears to be very typical based on best practices and/or other codes we see around the country. So it certainly wouldn't appear to be a "one off." My understanding in terms of jurisdiction is that "pretreatment" picks up where plumbing leaves off.

Related information specific to exterior grease interceptors: the proposed bill piqued our interest because the Minnesota DLI has, in our opinion, been misinterpreting the code intent around the exterior installation of Hydromechanical Grease Interceptors (HGIs) ever since the Uniform Plumbing Code was adopted. This interpretation has created an unlevel playing field between hydromechanical grease interceptor (HGIs) manufacturers and gravity grease interceptor (GGIs) pre-fabricators. Note that Schier makes both kinds. Particularly when HGIs are engineered, performance-rated, often made from non-corrosive materials and often include life safety features. The list goes on -- HGIs are just a more innovative category.

To be specific DLI requires a downstream vent just for HGIs but not for GGIs, effectively giving HGIs the "kiss of death" in terms of engineer specification viability. And they do this without any overt code language to support it. Nor am I aware of any other UPC jurisdiction that interprets it the same way.

Now, whether Bill 1972 is the right instrument to tackle that particular issue is another conversation. If nothing else, I would be FOR removing the current interpretation which would be a win for Minnesota's restaurants. They could probably use a win right now.

Thank you for listening and I welcome your feedback.

Charlie Ismert | President and Sales Director
charlie.ismert@schierproducts.com | 816-506-2832

Plumbing Board
Department of Labor and Industry

WebEx Board Meeting Open Forum Request

Please keep your presentation to 5 minutes or less.

- Please send this form, and any related materials/presentations to Lyndy Logan at **least 1 day prior to the start of the WebEx meeting.**
- Availability based on length of meeting and number of requestors.

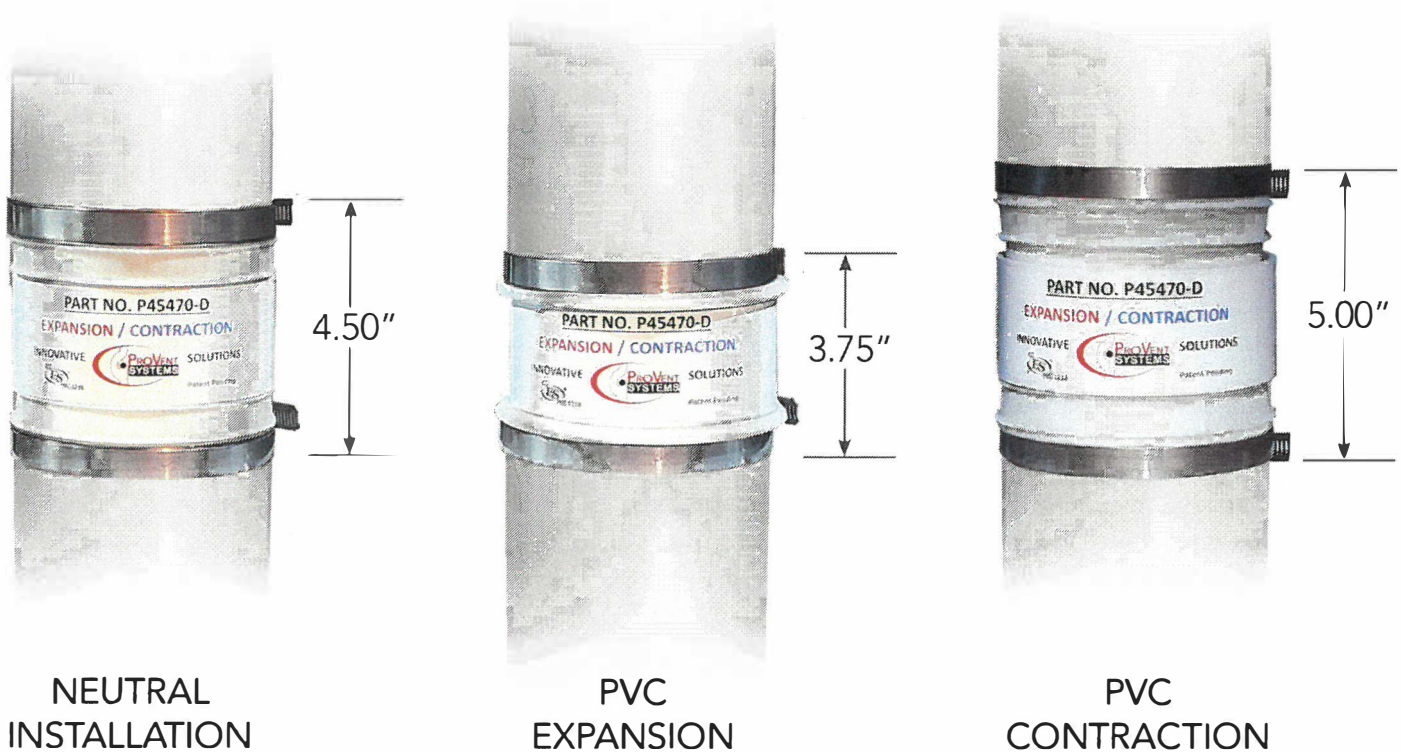
Plumbing Board		Date of Meeting <i>APRIL 20TH - 21</i>	Will you be joining meeting by computer or phone? Select <i>YES</i>	
Name <i>MIKE JOHNSON</i>		Street/Mailing Address <i>1 INDUSTRIAL BLVD</i>		Phone Number <i>320-250-6602</i>
City <i>SARV RAPIDS</i>	State <i>MN</i>	Zip <i>56379</i>	Email Address <i>MJOHNSON@J-BERO.COM</i>	
Representing/Company Name <i>J-BERO MECHANICAL</i>				
Topic: <i>APPROVAL OF PROVENTS EZ-FLEX MECHANICAL COUPLING FOR EXPANSION IN PVC DWV STACKS.</i>				

- Send this form and related materials to Lyndy at: lyndy.logan@state.mn.us
- For meeting information, including Open Forum Request forms and WebEx instructions, please visit the Plumbing Board's webpage at: <https://www.dli.mn.gov/about-department/boards-and-councils/plumbing-board>

A Special Rubber Flexible Coupling Made For PVC DWV Plumbing Stacks

NEW

EXPANSION THAT MAKES SENSE



NEUTRAL
INSTALLATION

PVC
EXPANSION

PVC
CONTRACTION

Most engineers use P.E. Thermal Expansion Charts to determine the overall movement of PVC pipe in a multi-story building. If the chart shows 3" movement within a 100 feet of vertical PVC pipe, most engineers would normally select one expansion joint that moves 3" and locate it near the top of the PVC pipe.

The above method does makes sense unless the PVC pipe is a DWV plumbing stack that has branches coming off at every floor. Then the

expansion should then be compensated at every floor or every other floor. Its here where branch pipe breakage could occur without using the right type of expansion fitting. This inexpensive ProVent Expansion Coupling can compensate up to 3/4" when needed. All four story or more apartment/hotel type buildings need this protection for both concrete and more importantly wood structures with a lot of shrinkage.



1355 Capital Circle, Lawrenceville, GA 30043
TEL: 800.262.5355 • FAX: 770.339.1784
www.proventsystems.com



IAPMO Standard

IAPMO IGC 359-2019a

Flexible Expansion Couplings for DWV Stack Applications

Published: June 2019

Previous Editions: April 2019

Published by

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TEST REPORT

5001 East Philadelphia Street
Ontario, California - USA 91761-2816

Ph: 909.472.4100 | Fax: 909.472.4243
<http://www.iapmoril.org>

Report Number: 2777-19001

Report Issued: April 17th, 2019

Project No.: 32000

Client: ProVent Systems
1355 Capital Circle
Lawrenceville, GA 30043

Contact: Ken Cornwall

Source of Samples: The samples were manufactured by the client and witnessed tested by Dale E. Holloway of IAPMO R&T Lab in Lawrenceville, GA The samples were received in good condition.

Test Date: April 16th, 2019

Sample Description: 3" and 4" Flexible Expansion Couplings.
Models: 3" – P35470-D
4" – P45470-D

Scope of Testing: The purpose of the testing was to determine whether the samples tested of the Flexible Expansion Couplings met the applicable requirements of IAPMO IGC 359-2019, entitled "Flexible Expansion Couplings for DWV Stack Applications".

Conclusion: The sample tested of the above flexible expansion couplings from ProVent Systems **COMPLIED** with the applicable requirements of IAPMO IGC 359-2019

By our signature below we certify that all the testing and sample preparation for this report was performed under continuous, direct supervision of IAPMO R&T Lab, unless otherwise stated.

Witness Tested By:

Dale. E. Holloway
Regional Technical Manager
IAPMO R&T Lab

All testing and sample preparation for this report was performed under the continuous, direct supervision of IAPMO R&T Lab, unless otherwise stated. The observations, test results and conclusions in this report apply only to the specific samples tested and are not indicative of the quality or performance of similar or identical products. Only the Client shown above is authorized to copy or distribute the report, and then only in its entirety. Any use of the IAPMO R&T Lab name for the sale or advertisement of the tested material, product or service must first be approved in writing by IAPMO R&T Lab.

Primary Standards: IGC 359-2019 Sections tested / evaluated:

4. General Requirement
5. Testing Requirements
6. Markings and Accompanying Literature.

Test Results All tests and evaluations were conducted per the written procedures in the specified standards.

IGC 359-2019 (Public Review Draft)

4. General Requirements

4.1.1 Flexible Coupling Material: COMPLIED

Couplings covered by this Standard shall be made of thermoplastic vulcanizate elastomer material with the minimum requirements shown in Table 1.

Material Property	Actual Value	Minimum Requirement	Standard based on
Density	0.93	0.93 g/cm ³	ASTM D792
Tensile stress at 73°F	305 psi	305 psi	ASTM D412
Tensile Strength at Break at 73°F	667 psi	667 psi	ASTM D412
Elongation at Break at 73°F	480%	480%	ASTM D412
Compression Set 158°F, 22 h, Type 1 257°F, 70 h, Type 1	19% 49%	19% 49%	ASTM D395B
Change in Tensile Strength in air at 302°F, 168 h	-11%	-11%	ASTM D573
Change in Ultimate Elongation in air at 302°F, 168 h	-10%	-10%	ASTM D573
Change in Durometer Hardness in air at 302°F, 168 h	1.0	1.0	ASTM D573

4.1.2 Rigid Components: COMPLIED

Flexible expansion couplings complying with this Standard that contain rigid Components are part of the flexible expansion installed around its insert built into the rubber coupling, and shall be made of:

- (a) PVC that complies with the minimum requirements of ASTM D2665.
- (b) ABS that complies with the minimum requirements of ASTM D2661.

- 4.1.3 Clamps: COMPLIED
Clamps for connecting the pipe to the flexible expansion coupling may be conventional snap ring type, a worm driven stainless steel band, or other conventional type of equally corrosion resistant materials.
Findings - worm driven stainless steel band
- 4.2 Connections: COMPLIED
Flexible expansion couplings shall be capable of connecting to pipe and fittings that comply with the minimum requirements of ASTM D2661, ASTM D2665, CSA B181.1, or CSA B181.2 as applicable, sized to fit.
- 4.3 Workmanship: COMPLIED
- 4.3.1 Flexible expansion couplings shall not:
(a) Restrict the flow capacity of the drainage line.
(b) Offer abnormal obstruction to the flow.
(c) Produce excessive turbulence or
(d) Have excessive body ledges or shoulders.
- 4.3.2 Inside and outside surfaces of the flex expansion couplings shall be free of crack, holes, blisters, voids, foreign inclusions or any other defects that are not visible to the naked eye and that might affect its functionality.

5 Testing Requirements

- 5.1 Test Specimen: FOLLOWED
The test specimen shall consist of a 3" and 4" flex expansion coupling.
- 5.2 Life Cycle Test: FOLLOWED
- 5.2.1 Test Apparatus: FOLLOWED
The test apparatus was expanded and contracted to $\frac{1}{2}$ " for 3" specimens and $\frac{3}{4}$ " for 4" specimens by using a drill press in a down position.
- 5.2.2 The testing was conducted testing in a down position for expansion or contraction ($\frac{1}{2}$ " for 3" or $\frac{3}{4}$ " for 4" specimens) as per Section 5.2.1. Testing was conducted as per Section 5.2.2 for 100 cycles in contraction and expansion modes at 100°F, then repeated for 100 cycles at 30°F. Units were then removed and examined.
- 5.2.3 Performance Requirements: COMPLIED
The specimen shall not fail or show any signs of deformation at either 100°F or at 30°F:
Findings: No deformation at either 100°F or 30°F
- 5.3 Hydrostatic Water Pressure Test: FOLLOWED
- 5.3.2 The hydrostatic water pressure test was installed per manufacturer's instructions, fitted with a 10 ft. length of pipe extending above the Coupling and the pressure held for 10 minutes, or fill a 3 ft. length of pipe with water at a pressure of 5 psi for 10 minutes. After the 10 minutes the coupling was examined for leaks.

5.3.3 Performance Requirements: COMPLIED

There shall be no leakage from the coupling.

Findings: Setup option: The coupling was attached with a pressure gauge and pressurized to 10 ft. of head pressure.

Results: No leakage

6 Markings and Accompanying Literature

6.1 Markings: COMPLIED

Flexible expansion couplings complying with this Standard shall be marked with:

- (a) X manufacturer's name or trademark
- (b) X model number
- (c) X IAPMO standard designation: IGC-359
- (d) X intended service, where applicable

6.2 Visibility: COMPLIED

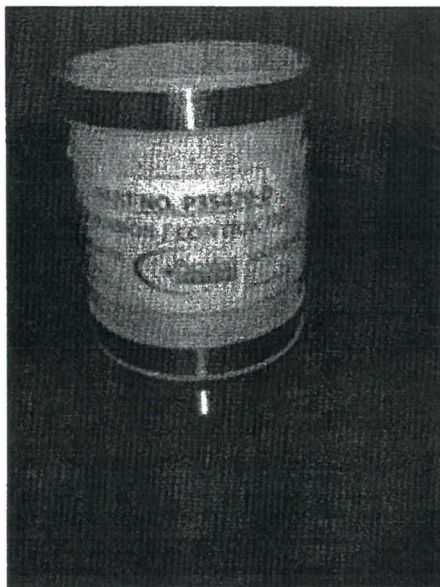
Markings shall be permanent, legible, and visible after installation.

6.3 Installation Instructions: COMPLIED

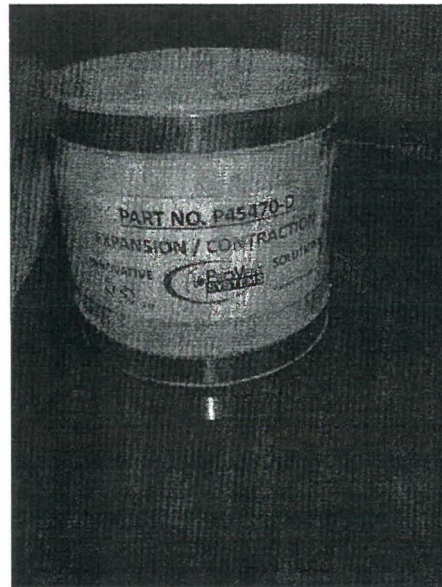
The Flexible Coupling shall be accompanied by general instructions for their installation, care and maintenance, and repair and shall include the following:

- (a) X requirements for where and how to install the flex expansion coupling.
- (b) X locations where anchors should be installed to allow the flex expansion coupling to work properly.
- (c) X a statement showing that shrinkage in multi-story wood structures should be considered prior to installation of the flexible coupling.

PICTURES



3"



4"

A Special Rubber Flexible Coupling Made For PVC DWV Plumbing Stacks

NEW

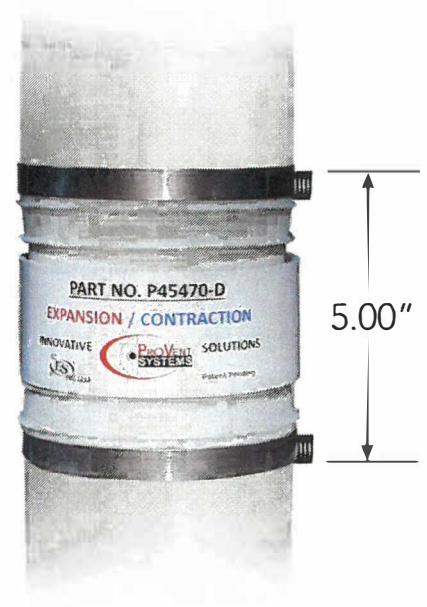
EXPANSION THAT MAKES SENSE



NEUTRAL
INSTALLATION



PVC
EXPANSION



PVC
CONTRACTION

Most engineers use P.E. Thermal Expansion Charts to determine the overall movement of PVC pipe in a multi-story building. If the chart shows 3" movement within a 100 feet of vertical PVC pipe, most engineers would normally select one expansion joint that moves 3" and locate it near the top of the PVC pipe.

The above method does not make sense unless the PVC pipe is a DWV plumbing stack that has branches coming off at every floor. Then the

expansion should then be compensated at every floor or every other floor. It's here where branch pipe breakage could occur without using the right type of expansion fitting. This inexpensive ProVent Expansion Coupling can compensate up to 3/4" when needed. All four story or more apartment/hotel type buildings need this protection for both concrete and more importantly wood structures with a lot of shrinkage.



1355 Capital Circle, Lawrenceville, GA 30043
TEL: 800.262.5355 • FAX: 770.339.1784
www.proventsystems.com



EZ Flex Mechanical Coupling Installation Instructions

The EZ Flex Mechanical Coupling needs an anchor point in order to work as an expansion and contraction device for PVC or ABS DWV stacks. The anchor point can start with the horizontal underground piping, any secured pipe offset, or any 3" or 4" size horizontal branch securely fastened enough to act as an anchor, allowing the flex coupling device to move freely.

The Mechanical Coupling must fit and be installed in-between two connecting PVC stack pipes using an exact 2-1/2" or 2-3/4" space or void in order to provide either 1/2" or 3/4" expansion and contraction in-line movement up or down. Use primer with the dauber to take the gloss off the two PVC pipe ends for a better fit from the pipe to the coupling's flexible hubs.

Roll up the top and bottom flex portions of the coupling onto the rigid middle PVC section and insert the coupling inside the exact 2-1/2" or 2 3/4" space or pipe void.

The two connecting pipes must be in alignment with each other. If they don't align, one pipe must move in order to create the proper straight alignment.

After inserting the rolled up coupling into the void, roll back the two flex portions on the top and bottom back onto the two connecting pipes.

Before tightening the bands it's very important to adjust the two connecting pipes into the rubber coupling leaving equal spacing on both the top and the bottom pipes.

After adjusting the couplings space equally, tighten the 301 stainless steel bands on both the top and bottom using a 60 lb. torque driver.

Recommended Flex Coupling Uses and Locations:

Mechanical Flex Couplings can be used to facilitate prefabbed piping into penetrations.

Mechanical Flex Water Tester can be used alternately to water test the stack piping.

The number of Flex Couplings used for expansion can change with the type of construction being used. Recommended spacing of expansion couplings for concrete structures would start at the third floor then continue up every other floor until the second highest floor.

Wood construction should consider both the expansion of plastic piping plus the structural wood settlement that occurs inside the building. Shrinkage in light frame construction can range from 0.05 to 0.5 inch per level. Recommend using one on the first, second & third floors in 3 and 4 stories, then every other floor up to the second highest floor in higher buildings.

ProVent Systems 1355 Capital Circle, Lawrenceville, GA. 30043 Phone: 800-262-5355

EZ Flex Mechanical Installation Instructions



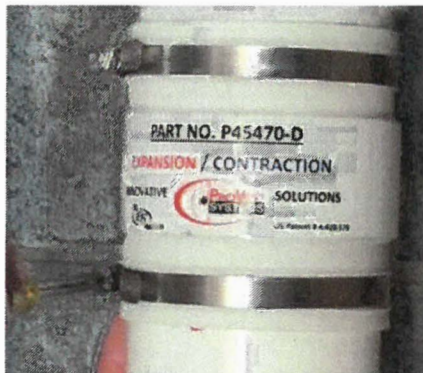
Insert a 2-1/2" gap between the pipes

1.



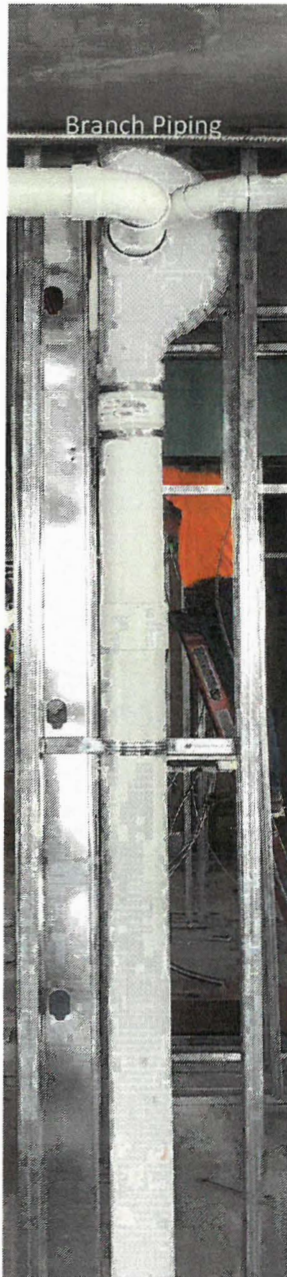
Insert the rolled up ends into the gap

3.



Tighten up the stainless steel bands

5.

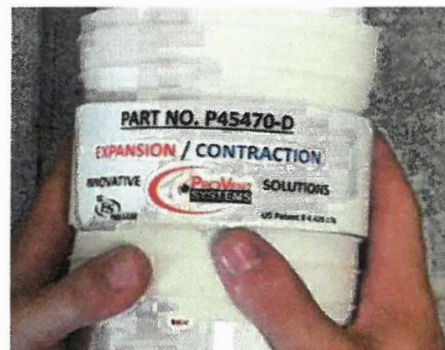


See other page instructions



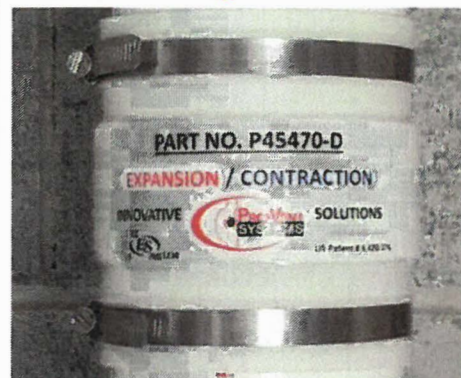
Roll both flex ends to meet each other

2.



Roll back two ends back onto the pipes

4.



EZ flex joint flexes vertical and horizontal

6.



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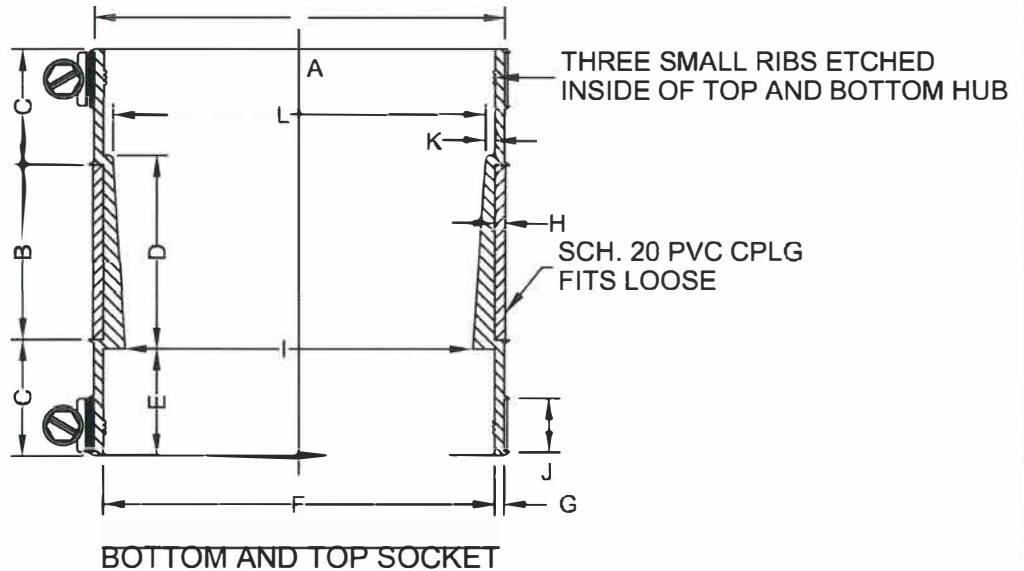
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EZ Flex Mechanical Coupling

Tapered Flex Rubber Permits a Smooth Waste Water Flow
Complies With ICC ES-PMG-1238 And IAPMO IGC-359

FLEXIBLE COUPLING
 MATERIAL SANOPRENE
 TM# 8211-45



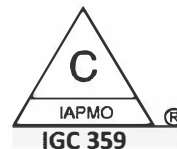
Dimensions, in (mm)												
	A	B	C	D	E	F	G	H	I	J	K	L
3"	3.720 (94.49)	2.000 (50.80)	1.260 (32.00)	2.220 (56.39)	1.220 (30.99)	3.500 (88.90)	0.110 (2.79)	0.120 (3.05)	3.000 (76.20)	0.575 (14.60)	0.110 (2.79)	3.280 (83.31)
4"	4.720 (119.90)	2.000 (50.80)	1.260 (32.00)	2.220 (56.39)	1.220 (30.99)	4.500 (114.00)	0.110 (2.79)	0.120 (3.05)	4.000 (101.60)	0.575 (14.60)	0.110 (2.79)	4.280 (108.70)

Uniform Plumbing Code Section 312.2 states: All plumbing piping shall be so installed that the piping or connections will not be subject to undue strains or stresses. Section 705.9.2 states: Expansion joints shall be accessible, except when used for DWV stacks,

EXPANSION / CONTRACTION

SPECIALLY MADE FOR PVC/ABS DWV PLUMBING STACKS

US PATENT NO. 9,982,823



Building Settlement When Using Wood Frame Construction

- Most of the apartment type buildings being built today are using wood-frame construction that are also Complex Multi-Story Structures. Shrinkage of the wood during and after construction is causing structure settlement to the entire building. This affects the DWV Plumbing system as well as other electrical equipment attached to the structure.

The attached photos show the damage to the DWV Plumbing system caused by this known problem of structural settlement within wood frame construction

The photos shown here are from the effects of the settlement has on the plumbing drainage pipe and fittings. The only known method of relieving this type stress on the DWV piping is to use expansion coupling joints at every or every other floor level. Photo 2 is from a recent Hampton Inn project in Iowa. Shrinkage was 3-1/2" in this 6 story combination concrete and wood project.

The IBC Code Section 2303.3.3 states: Shrinkage Wood walls and bearing partitions shall not support more than two floors and a roof unless an analysis satisfactory to the building official shows that shrinkage of the wood framing will not have adverse effects from the structure to the plumbing or other trades. This problem has still not been addressed in most wood buildings. Now the new EZ Mechanical Flex Coupling is specially made for PVC stacks, is inexpensive and used to provide stress relief needed at each of the branch levels. Photos 1 & 3 are from the Wood Products Council

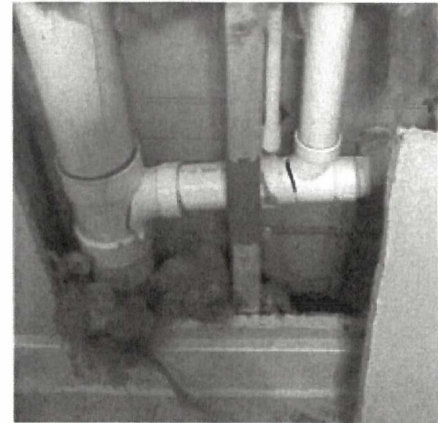


Photo 1.

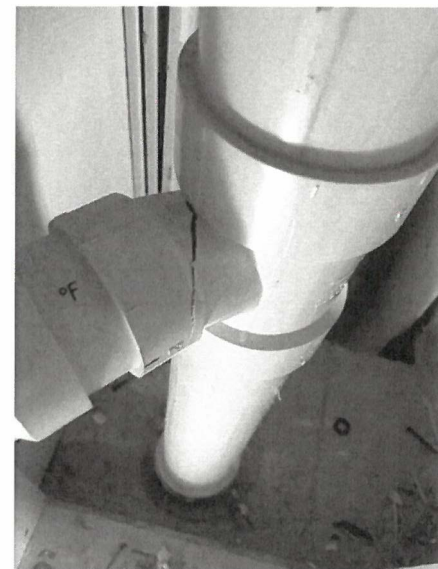


Photo 2.

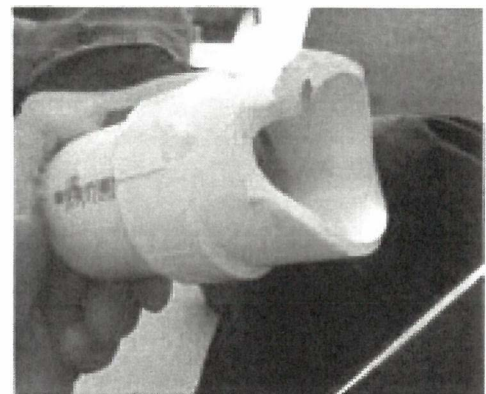


Photo 3.

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