20ft of pipe
6 tees
5 elbows or Bend Supports
8 caps

FGG actual = .85 joints/ft
FGG sample = 1.8 joints/ft

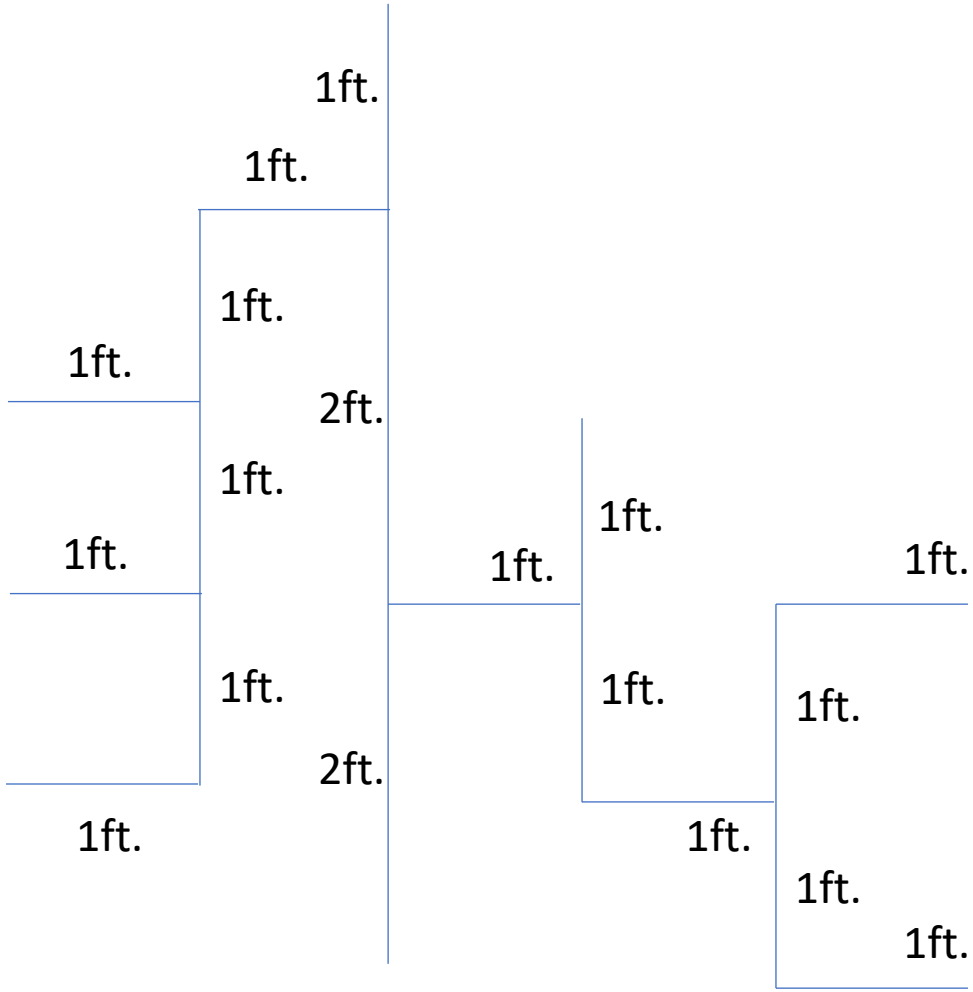
PEX actual = .61 joints/ft
PEX sample = 1.3 joints/ft

Both samples have 2.1x extra joints vs. field actuals to simulate working conditions e.g. hangers, working in a tighter space, etc...

PEX has 30% fewer joints than CPVC, which aligns with PEX marketing claims

PEX bend supports used to ensure shape & simulate time needed to bend pipe through a stud

Assembly Diagram



Procedure:

Each assembly contains only 1 diameter of pipe/fittings

Begin with one 20ft stick or two 10ft sticks of pipe uncut, all fittings in open bags, 1 bag per fitting type. PEX bend supports can be loose.

No measuring, cutting or staging can occur until the clock begins.

Clock stops once the last joint has been assembled and the tools put down.

Analysis:

Labor unit assessment:

- Final clock time in hours

Material cost assessment:

- Tally purchase price for pipe and fittings, excluding bend supports

Total cost assessment:

- Labor units x hourly rate + material cost