At **Forrester Manufacturing Company**, we want to be helpful to you. We are the experts on column isolation pockets. We invented the stay-in-place forms concept for this application and the entire product line. We also have the product line familiarity to guide you in making your best choices for any given situation. Often, there is more to making the best choice than just the math and geometry involved! We hope that you will allow *us to help you* make the best choice based on individual conditions, economy, availability and practicality.

We currently are manufacturing quite a few differing shape and size combinations. Often, we make forms for pedestals, pilasters and under-slab junction boxes in addition to isolation pockets. For some projects, determining the best choice or choices is very straightforward and for other projects the chore can be quite complicated.

We do not make round column isolation pockets – nor do we have any serious plans to make these in the future. There are numerous reasons why round is a poor choice for pockets in most projects.

Due to the fact that this product line has "taken-off" so well in terms of sales, we have to make certain that as much information as possible is presented in an easily understood format. We have created a spreadsheet that defines and provides dimensions for our standard shapes of pockets. We base our prices on how efficiently we can produce our products. With ***standard*** shapes and sizes, the very best economy is achieved. But how good is something that is not the right fit for your project? Our standard shapes and sizes list covers four major shapes:

- 1Q pockets are one quarter of a square, with brackets to fit into an interior corner condition. Over 400- ***standard*** lengths and depths of 1Q pockets are available.
- 2Q pockets are two quarters (one half) of a square, with brackets to fit conditions where columns occur along a straight edge line. Over 400- ***standard*** lengths and depths of 2Q pockets are available.
- 3Q pockets are three quarters of a square, also with brackets to fit into an exterior corner condition. Over 400- ***standard*** lengths and depths of 3Q pockets are available – and please keep in mind that these are very often needed in non-standard sizes – which we make every day!
- SQ pockets are square. Many people call these "diamonds". We manufacture over 400- ***standard*** sizes and depths of SQ pockets. Our standard sizes go up to 9'-0" square. We have standard depths up to 6'-0" deep. If you need a pocket, we're the people to call!

Every day, we make custom-fabricated designs for customers needing one-of-a-kind units. Due to our state-of-the-art methods of production, you will be pleasantly surprised with the prices and short lead times for these custom manufactured units.

This file is designed to work hand-in-hand with our **PFI SIZING SPREADSHEET**. After reading over this, you will know how our standard pockets are dimensioned.

Interior Corner – One Quarter of a Square – "1Q"

When steel columns occur at an interior corner condition, the best pocket shape is often what we refer to as our "1Q" shape. The "1Q" shape is very economical and introduces no reentrant corners. "1Q" pockets are available in a very large variety and are easily custom fabricated in non-standard dimensions when the need arises.

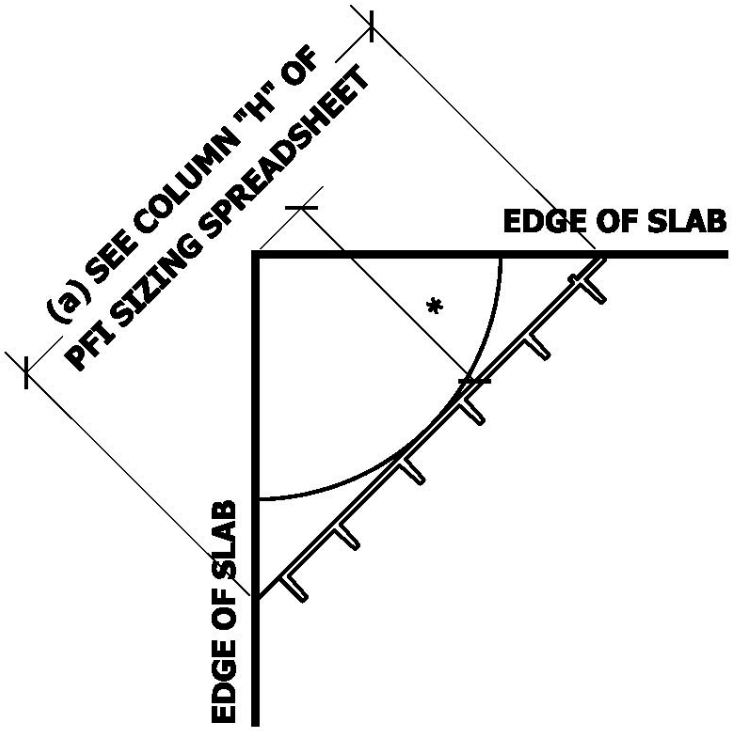
"1Q" pockets can be tricky to understand and several things must be remembered: Unless otherwise specified, "1Q" pockets are furnished with galvanized steel brackets, which enable solid connections to either permanent structures or temporary formwork.

Connections to permanent structures are provided with "TapCon" (blue) screws – which hold tightly to permanent walls, etc. Connections to temporary formwork are provided with self-drilling, self-tapping screws, which are removable prior to stripping of temporary forms. It is highly recommended, though; that connections to rental formwork be done via "C-Clamps" that are removed prior to the concrete's initial set.

For one to properly size "1Q" pockets, it is imperative that everything within the pocket be defined and dimensioned with comparison to the ***two slab edges*** involved. The "work point" for a "1Q" pocket shall be the intersection of the two slab edges. Once one has determined the size of a quarter circle that encapsulates all embedded items, it is only necessary to add corner clearance to the quarter circle's radius to determine the plan size for the "1Q" pocket. In addition to the many plan sizes of "1Q" pockets available; there are many depths available, also. In the **PFI SIZING SPREADSHEET**, we provide a column of dimensions that are radii of tangent points for our "1Q" pockets. A quick comparison to the spreadsheet will give you an answer. With size and depth, product pricing may be quoted by one of our sales representatives. With quantities and destination address, freight pricing can be provided as well.

Please refer to page 3 (below) for a drawing of 1Q pockets and how they are dimensioned.

PLEASE REMEMBER THE QUARTER CIRCLE ILLUSTRATED BELOW MUST INCLUDE ALL EMBEDDED ITEMS and CORNER CLEARANCE.



WORK POINT IS INTERSECTION OF SLAB EDGES AT INT. CORNER.

*** SEE COLUMN "K" OF SPREADSHEET FOR DIMENSION FROM WORK POINT TO THE TANGENT POINT ON INTERIOR FACE OF PFI.**

HOW "1Q" POCKETS ARE DIMENSIONED

Half – Square Isolation Pockets – "2Q"

Quite possibly the pocket shape that confuses the most people is what we refer to as our "2Q" shape. Once one understands the complete concept, however; "2Q" pockets become quite simple to size. The common misconception is that if one needs any given size [square] pocket in the non-edge situations of a project, the same column/base plate combination will simply require a "half pocket" of the same size along the edges. The fact is: most of the time this assumption is incorrect! In addition to the size of the embedded items, a controlling factor is also the dimensional relationship between the ***edge of the slab*** and the embedded items.

Here is an example: John Doe needs "28SQ" square pockets in his middle-of-the-slab locations. Many contractors assume that the same base plate and column configuration along the edges will require a "282Q" pocket size. Unfortunately, the position of the column base assembly relative to the slab's edge is a major factor. For a column snug with a wall, one could use a much smaller "2Q" pocket than if the same column base assembly is 2 or 3 feet from the slab's edge.

First, as in all pockets, one must first ***determine everything embedded*** within a "2Q" pocket. Second, one must be aware of the corner clearance requirements for pockets. It is very common for "2Q" pockets to contain the lower ends of diagonal braces – diagonal braces hugely influence the size of some pockets. Another thing to consider is where the slab control joints are to be placed – often an offset pocket will cause joint spacing problems and therefore the best solution is sometimes an oversized "2Q" pocket centered on the preferential control joint location.

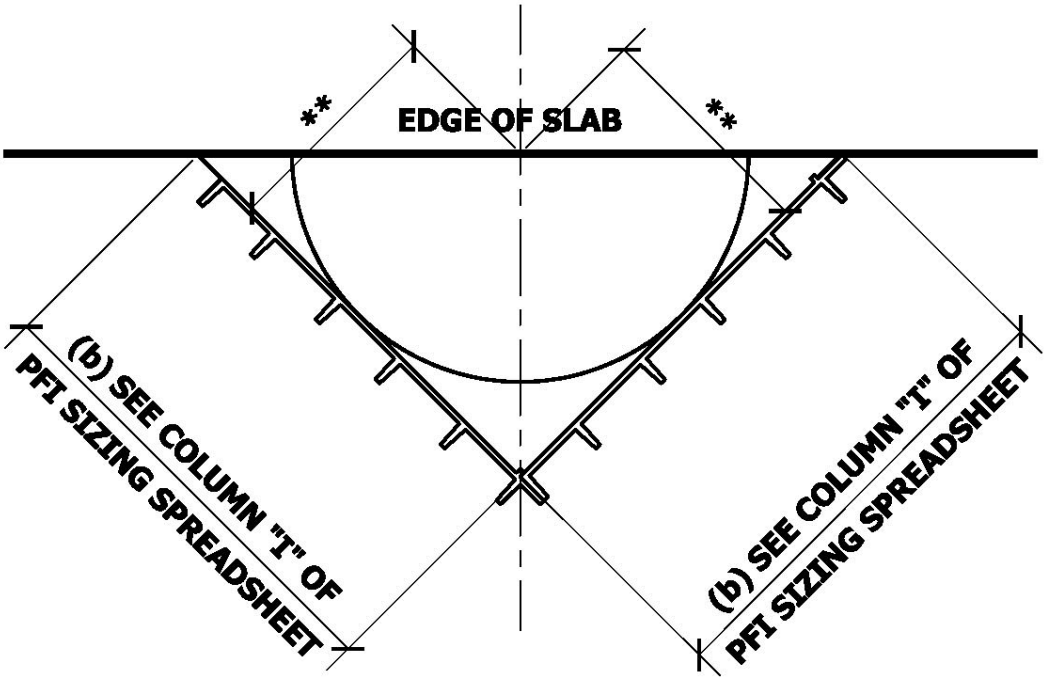
The work point for "2Q" pockets is the point where the edge of the slab intersects with the column's centerline. "2Q" pockets will sometimes surprise you with their size when all things are considered!

Our "**PFI SIZING SPREADSHEET**" has a column of numbers which are distances from the "2Q" pocket's work point to the two tangent points on the pocket's interior faces. Refer to the spreadsheet for numbers that can be compared to sums of required corner clearance plus radii of half circles encompassing all items embedded within a given pocket size.

With size and depth, product pricing may be quoted by one of our sales representatives. With quantities and destination address, freight pricing can be provided as well.

Please refer to page 5 (below) for a drawing of 2Q pockets and how they are dimensioned.

PLEASE REMEMBER THE HALF CIRCLE ILLUSTRATED BELOW MUST INCLUDE ALL EMBEDDED ITEMS and CORNER CLEARANCE.



WORK POINT IS INTERSECTION OF SLAB EDGE & COLUMN CENTERLINE.

**** SEE COLUMN "L" OF SPREADSHEET FOR DIMENSION FROM WORK POINT TO THE TANGENT POINT(s) ON INTERIOR FACE OF PFI.**

HOW "2Q" POCKETS ARE DIMENSIONED

Exterior Corner – Three Quarters of a Square – "3Q"

Our least often requested standard pocket shape is the "3Q". This shape occurs in only a few buildings, but it has proven to be a very helpful product – when it is necessary to use. Due to the frequent need for this pocket shape to include legs of differing lengths, we make side length changes as required on most "3Q" pockets that are sold. Schools and churches employ "3Q" pockets more than other types of buildings.

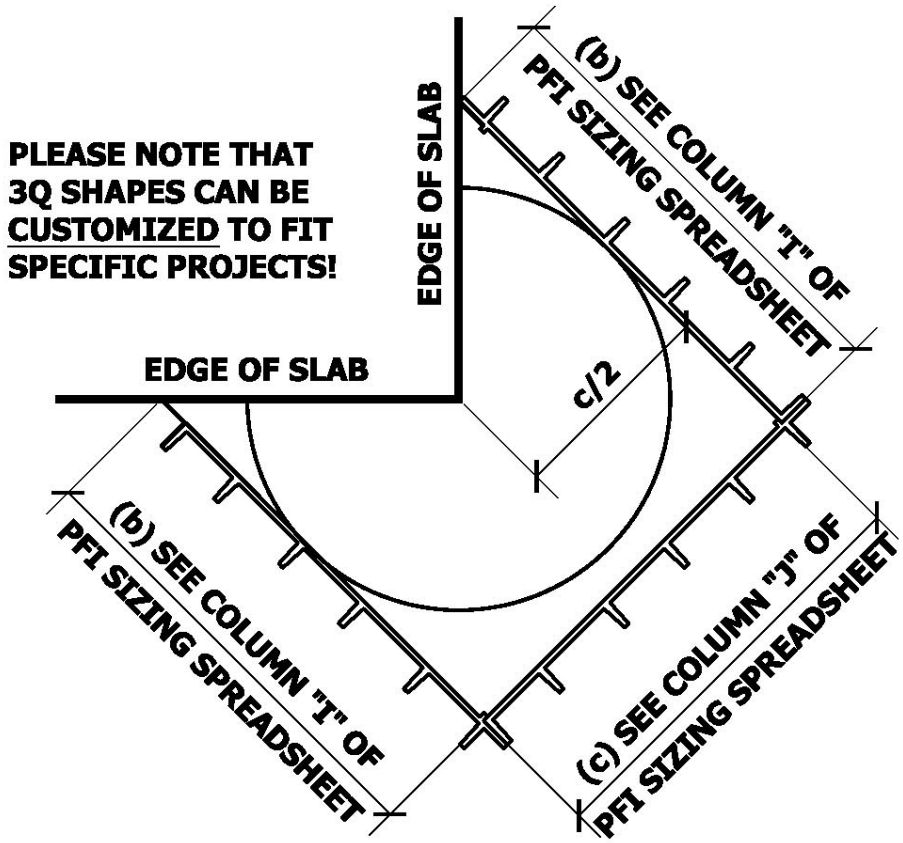
We make size reference to "3Q" pockets based on the length of the middle side of the form. Quite commonly, the base plate controls the middle side length and the ends are shortened or lengthened to enable the reentrant corners of the pocket to align with the slab control joints – which are usually along the "column lines". We are always glad to help in determining the best option for any given situation. Sometimes a size might be a good fit – but something else is often available that would suffice and save you money.

On the accompanying **PFI SIZING SPREADSHEET**, there are columns "I" and "J" which contain dimensional information. Also, on pages 5-8 there is maximum plate sizes, which apply to the middle sides of "3Q" pockets.

With size and depth, product pricing may be quoted by one of our sales representatives. With quantities and destination address, freight pricing can be provided as well.

Please refer to page 7 (below) for a drawing of 3Q pockets and how they are dimensioned.

PLEASE REMEMBER THE SEMI-CIRCLE ILLUSTRATED BELOW MUST INCLUDE ALL EMBEDDED ITEMS and CORNER CLEARANCE.



WORK POINT IS INTERSECTION OF SLAB EDGES AT EXT. CORNER.

HOW "3Q" POCKETS ARE DIMENSIONED

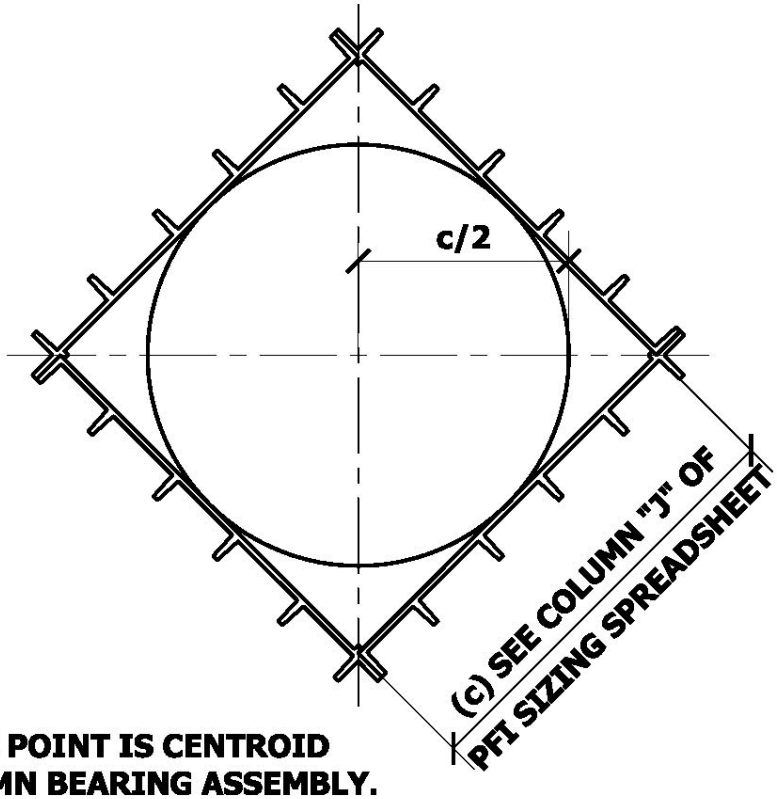
Non-Edge Square Isolation Pockets – "SQ"

Of all our pocket types, the simplest to size is where the only items embedded are the column with a square base plate in a non-slab edge location. For conditions like this all one needs to know is: base plate size, target corner clearance and depth of pocket. For these pockets, one may simply compare base plate sizes to a chart. If you will printout the **PFI SIZING SPREADSHEET**, this will be pages 5 & 6 for 3" corner clearance and pages 7 & 8 for 4" corner clearance. Other clearance amounts can certainly be determined, but are not currently included in the spreadsheet.

Occasionally, however there are **more items within the pocket** than just the column and anchorage assembly, examples could be rain drains or diagonal braces. The very best way to determine the ideal size of these isolation pockets is to draw a scale representation of everything necessary to be enclosed within said pocket. It is then necessary to determine the amount of corner clearance (concrete cover) that is necessary for protection of embedded items. Usually, the minimum corner clearance is stated on structural drawings and is most often 3". Check though, because many design professionals may require more than 3". This 3" (or more) corner clearance is helpful in several ways. First, embedded steel items need protection from corrosion that often cannot be provided by paint or a simple coating alone. Secondly, there needs to be ample room for a steel erector to tighten anchoring nuts and for non-shrink grout placement under the base plate. Thirdly, there needs to be some "wiggle room". If one targets an amount that is extremely tight at best – the odds of having something that won't fit increases considerably.

Please refer to page 9 (below) for a drawing of SQ pockets and how they are dimensioned.

PLEASE REMEMBER THE CIRCLE ILLUSTRATED BELOW MUST INCLUDE ALL EMBEDDED ITEMS and CORNER CLEARANCE.



WORK POINT IS CENTROID OF COLUMN BEARING ASSEMBLY.

MAXIMUM SQUARE or RECTANGULAR BASE PLATES ARE BASED ON POCKET SIZE and CORNER CLEARANCE FACTORED TOGETHER.
SEE PFI SIZING SPREADSHEET FOR:
SQUARE PLATES w/ 3" CORNER CLEARANCE IN COLUMN "N"
RECTANGULAR PLATES w/ 3" CORNER CLEARANCE IN COLUMN "O"
SQUARE PLATES w/ 4" CORNER CLEARANCE IN COLUMN "Q"
RECTANGULAR PLATES w/ 4" CORNER CLEARANCE IN COLUMN "R"

HOW "SQ" POCKETS ARE DIMENSIONED