



AUTODESK® REVIT®
DESIGN • CONNECT • OPTIMIZE



1.6

Building
Technology III

CityTech.CUNY.edu

ARCH 2431

Building Technology III

Steel Assembly &

Building Information Modeling (BIM) with Revit

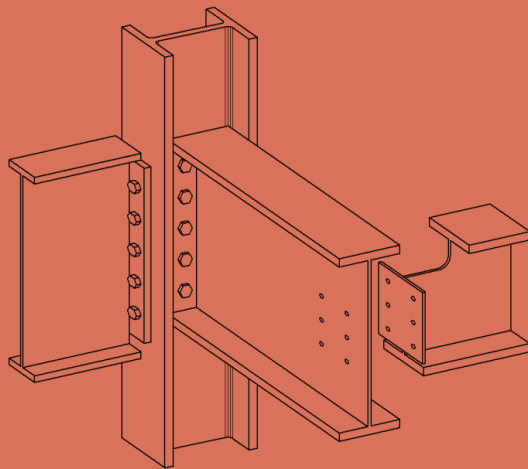
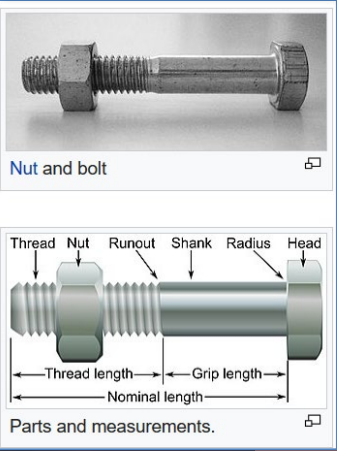
Steel Connections Series

- #1 Introduction to Columns & Beams
- #2 Column Base Plates
- **#3 Photos & Videos – Connections & Fasteners**
- #4 Concrete footing to baseplate connection
- #5 Fin & Splice Plates – Notched Beams
- #6 Diagonal Bracing

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Prof. Justin Sherman
Prof. Jieun Yang

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Steel Connections Bolts and Fasteners

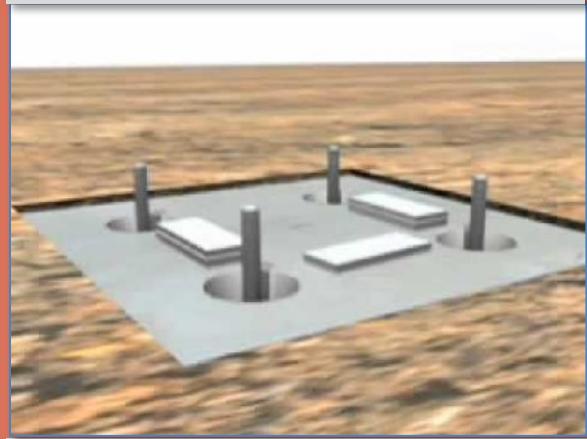


- Videos
 - Column Base Plate to Foundation
 - Beam to Column Fin Plate Connection
 - Beam to Column Connections
 - Beam to Beam Connections

- Sections & Isometrics

Steel Column and Beam Connection Videos

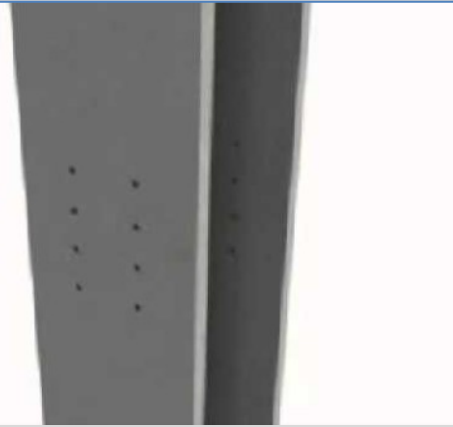
Column Base Plate to Foundation



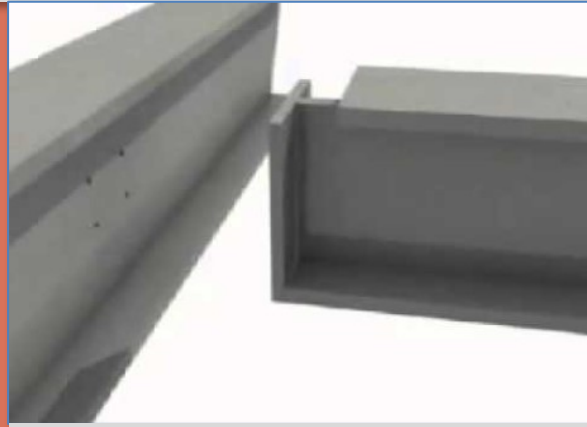
Beam to Column Fin Plate



https://www.steelconstruction.info/Simple_connections#Joint_considerations



Beam to Beam Connection

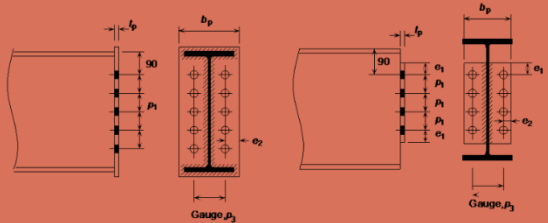


Beam to Column Connection

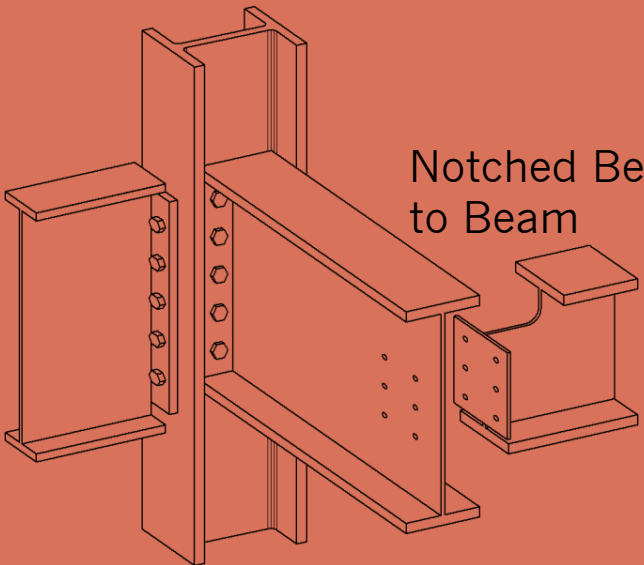
- Videos
 - Column Base Plate to Foundation
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- Steel Drawings
 - Sections & Isometrics
- Connection Photographs
- Steel Stairs
- Bolts & Screws

Steel Connection Drawings and Isometrics

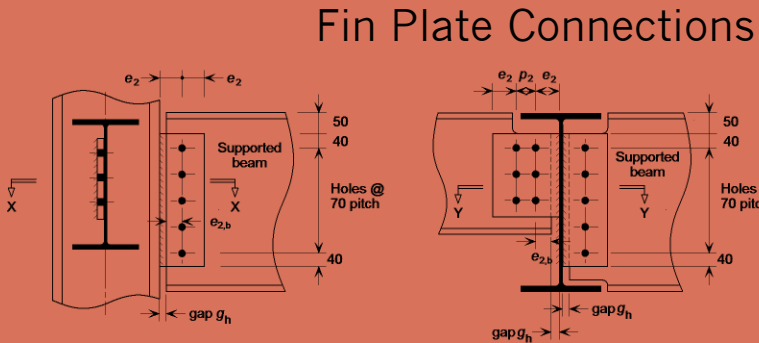


Beam with End Plate



Notched Beam to Beam

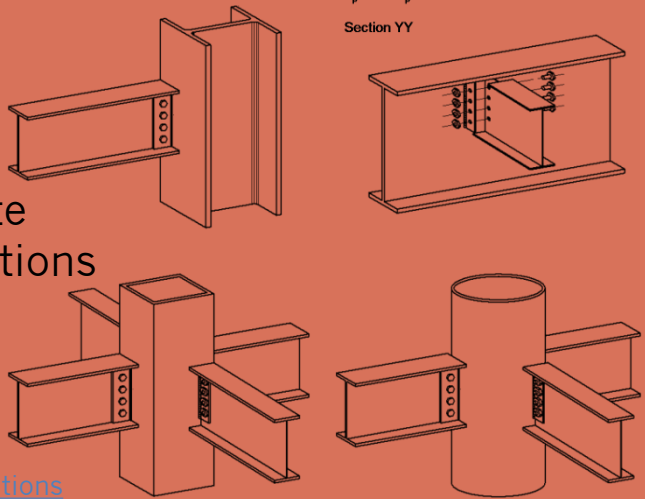
Beam to Column



Fin Plate Connections



Fin Plate Connections



- Videos
 - Column Base Plate to Foundation
 - Beam to Column Fin Plate Connection
 - Beam to Column Connections
 - Beam to Beam Connections

- Steel
- Drawings
 - Sections & Isometrics
- Connection Photographs
- Steel Stairs
- Bolts & Screws

Steel Connection Photographs



<https://skyciv.com/technical/bolts-vs-welds-vs-rivets-for-steel-connections/>

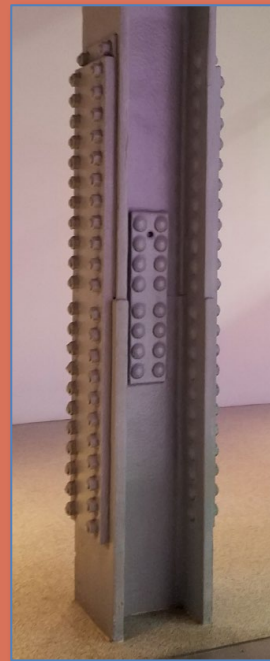


Photo by Paul King
NYC Seaport



<https://civil-engg-world.blogspot.com/2011/05/base-plate-for-steel-column.html>



<https://amtecdesigns.com/struct/>



Photo by Paul King – Corning Glass



**Steel
Connections**

**Fasteners &
Bolts**

- **Videos**
 - Column Base Plate to Foundation
 - Beam to Column Fin Plate Connection
 - Beam to Column Connections
 - Beam to Beam Connections

• **Steel
Drawings**

- Sections & Isometrics

• **Connection
Photographs**

• **Steel Stairs**

• **Bolts &
Screws**

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<https://www.pinterest.com/pin/732116483163841997/>



<https://www.pinterest.com/pin/431430839305098175/>

Steel Stairs



<https://www.pinterest.com/pin/443252788327186802/>




<https://www.pinterest.com/pin/260153315961059325/>



<https://www.pinterest.com/pin/732116483163842012/>


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Assorted washers: flat, split, star and insulating

[https://en.wikipedia.org/wiki/Washer_\(hardware\)](https://en.wikipedia.org/wiki/Washer_(hardware))



A plain washer and a spring washer are placed on a bolt between the nut (on the threaded end) and the bolt head.

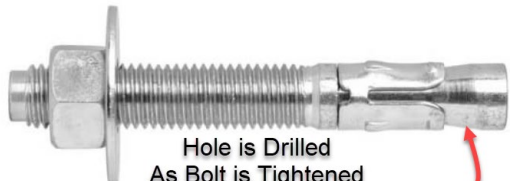
[https://en.wikipedia.org/wiki/Bolt_\(fastener\)](https://en.wikipedia.org/wiki/Bolt_(fastener))

<https://amtecdesigns.com/struct/>

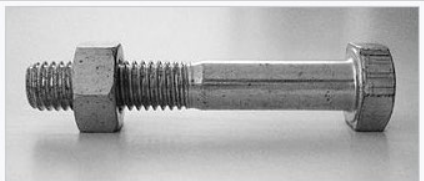
Metal Fasteners by Am-Tec Designs

FASTENERS

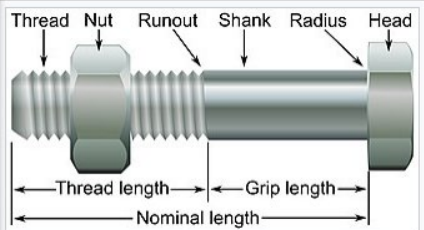
Masonry to Concrete Anchor



Hole is Drilled As Bolt is Tightened End will Expand to Hold



Nut and bolt



Thread Nut Runout Shank Radius Head

Thread length Grip length Nominal length

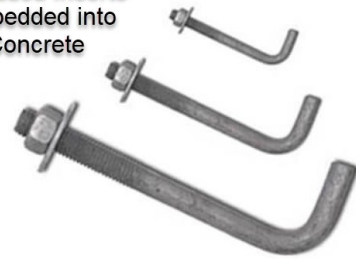
Parts and measurements.



Metal Fasteners by Am-Tec Designs

FASTENERS


Threaded Inserts Embedded into Concrete



Metal Fasteners by Am-Tec Designs

FASTENERS

Flathead - Countersunk Phillips - Allen Bolt Coated



<https://www.globalindustrial.com/p/fasteners/Self-Tapping-Screws/hex-head/self-tapping-screw-8-x-1-12-hex-head-pkg-of-280-itw-teks174-21308>

Self Drilling or
Self Taping Screw



That's all Folks!