

**Glass in buildings: Design and Application**  
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**Lecture - 40**  
**Interior Glazing Applications – Shower Enclosure**

Now, let us get into the hardware and plastic component of wall to wall swing door, mean type 1 type 2 and type 3.

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**Shower Enclosure : Hardware & Plastic Components**

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Standard Types of Shower Enclosures

Type-1

Sl. No	Item Description	Qty.
1	Wall to Glass Hinge	2
2	Water dispenser L=2000 mm	1
3	Wall Seal L=2500 mm	1
4	Magnetic seal -2500mm	1
5	Towel rod cum handrail	1

NPTEL

So, here it goes type 1, you can see type 1 what are the major component is. The first thing is as we discussed 1 wall to glass hinges. So, how many glass hinges are used here? You can see there are two wall to glass hinges then we are using here towel rod I mean the handle part this thing. So, one glass handle will be used, then for bottom because it is a door, we need water dispersal seal as I discuss plastic part.

So, that plastic part which will prevent water to come out from the bottom so, here we will be using this plastic part. Then on the sides again wall seal which is going to prevent water from wall to come out to the WC area. So, this is what the type 1 category.

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**Shower Enclosure : Hardware & Plastic Components**

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Standard Types of Shower Enclosures

Type-2



Sl. No.	Item Description	Qty.
1	Wall to Glass Hinge	2
2	Wall to Glass Bracket	2
3	Floor to Glass Bracket	1
4	Water dispenser L=2000 mm	1
5	Wall Seal L=2500 mm	1
6	Magnetic seal -2500mm	1
7	Towel rod cum handrail	1
8	Support Bar -19mm dia rod, 2100mm length	1
9	Wall to Rod Connector	1
10	Rod to Glass Clamp	1

NPTEL

And type 2 the first thing changes is number of glass panel. So, you can see here one fixed and one door panel. So, for fixed panel lets go one by one you need to wall to glass clamp, which is like first this and another this. So, that the glass will be holded on the wall with the help of this brackets and this bracket again will be of brass. Now to fix this glass in floor we need a floor bracket also. So, for fix panel we will be need of 2 wall to glass clamp and 1 floor to glass clamp. So, that is has to fix the fix part panel, fix panel of glass.

The another part is door panels so, as earlier we saw door panel the same thing will happen here 2 hinges, wall to glass hinges 1 towel rod that is all. That is to fix the glass door part on wall side so, one fix part one glass door. Now to fix this fix part we need stabilizer rod so, that they would not be any vibration, because fix part is fixed from the bottom from top it is opened. So, to avoid any kind of vibration or miss happening we need to provide a stabilizer rod.

As I discuss earlier the stabilizer rod and this towel rod maybe of access, but that access also must be 304 grid, why 304 grid? Because again it is very very less prone to corrosion, which is considered as the most commonly used domestic steel grid. So, here will be using one stabilizer rod, now, to connect stabilizer rod with glass we need a glass to rod connector which will hold rod to glass with that connector.

And to hold that rod from wall we need two connectors which is rod to wall connector one in left and one in right. So, that will connect rod from side as like we connect our towel rail curtain rail in our home, you can see one side is connected to the one wall another side is connected to the another wall. So, the same kind of connector will be used here to connect this stabilizer rod from wall to wall.

So, these are the basic component which is being used for type 2 category and apart from that of course, the plastic parts. So, when it comes to plastic part one magnetic seal in between this fixed and door panel because the door is closing water should not come out from that space.

So, there and then both the sides one side fix wall another side door wall whereas, the water should not come out from the gap, then one we will be using the water dispersal seal at bottom. So, once you are opening the door it should not take out water, it should take in again so, those three areas where we are going to use the plastic parts.

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**Shower Enclosure : Hardware & Plastic Components**

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Standard Types of Shower Enclosures

Type-3

Sl. No.	Item Description	Qty.
1	Glass to Glass Hinge 180	2
2	Wall to Glass Bracket	4
3	Floor to Glass Bracket	2
4	Water dispenser L=2000 mm	1
5	Middle Seal 1- 2500 long.	1
6	Magnetic seal -2500mm	1
7	Towel rod cum handrail	1
8	Support Bar -19mm dia rod	1
9	Wall to Rod Connector	2
10	Rod to Glass Clamp	2

BoM

NPTEL

Coming to type 3 so, type 3 you can see as I discuss there are 2 fix panel; one is at left one is at right and in center there is a door. So, here the hinges mechanism will also changed as I discuss if glass is going to fixed on glass we will be using glass to glass hinges and though it is in linear position. So, here we will be using glass to glass 180 degree hinges and then as we discussed earlier it is a fixed part. So, we will be using 1 fix bracket here, 1 wall to glass bracket here and 1 floor to glass bracket.

Then same thing on the other fixed glass wall to glass, wall to glass and here floor to glass. So, the hardware will remain double to the previous one I mean in type 2 there were 1 fix, type 3 there are 2 fix. So, whatever we have used for 1 fix we will have to just double it and then the hinges category will change.

Same stabilizer rod, rod to glass connector will be used here and then wall to rod connector from both the corner and then floor clamp. So, this is how a simple material specification will happen in this way for type 3. So, type 1 type 2 type 3 basically wall to wall and majorly hinges used in this category is wall to glass hinge and the another is glass to glass 180 degree.

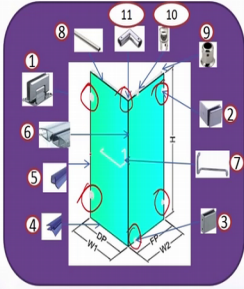
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**Shower Enclosure : Hardware & Plastic Components**

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Standard Types of Shower Enclosures

Type-4



Sl. No.	Item Description	Qty.
1	Wall to Glass Hinge	2
2	Wall to Glass Bracket	2
3	Floor to Glass Bracket	1
4	Water dispenser L=2000 mm	1
5	Wall Seal L=2500 mm	1
6	Magnetic seal -2500mm	1
7	Towel rod cum handrail	1
8	Support Bar -19mm dia rod, 2100mm length	1
9	Wall to Rod Connector	1
10	Rod to Glass Clamp	1
11	"L" connector for support bars	1

BoM

NPTEL

Now, let us go to corner so, corner is type 4. So, you can see here one is fixed and one is door one. So, again the door is being fix zone wall. So, we will be using here wall to glass hinge, remaining all will like same as like our type 2 category same 2 wall to glass bracket, 1 floor to glass bracket. And then stabilizer rod here you can it is connecting one thing will be added here the L connector for stabilizer rod, because rod is also coming like this. So, one connector will be provided here that is all.

So, same specification for this whereas, towel rod, plastic seal, magnetic seal and flow dispersal seal will be used so, the only difference is the glass orientation; earlier it was wall to wall now we have kept this enclosed in a corner. So, corner enclosure is always giving more space, like if you are going to cover wall to wall means the entire wall to



wall area will be covered. Whereas, if you are going to put in corner I will give you remaining space free or dry which can be used in a different purpose.

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**Shower Enclosure : Hardware & Plastic Components**

Standard Types of Shower Enclosures

Type-5

Sl. No.	Item Description	Qty.
1	Wall to Glass Hinge	2
2	Wall to Glass Bracket	2
3	Floor to Glass Bracket	2
4	Glass to Glass Bracket 90	2
5	Water dispenser L=2000 mm	1
6	Wall Seal L=2500 mm	1
7	Magnetic seal -2500mm	1
8	Towel rod cum handrail	1
9	Support Bar -19mm dia rod	1
10	Wall to Rod Connector	2
11	Rod to Glass Clamp	2
12	"L" connector for support bars	1

**NPTTEL**

Now, same like in type 5; again see again corner model what is the difference here? There are 2 fix panel one is this one is this and one door panel. The only difference here is again there are fix panel being increased from 1 to 2 rest all structurals same; same door opening on wall. So, wall to glass hinges rest fixed part again so, fix to I mean floor to glass and wall to glass clamping these used.

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**Shower Enclosure : Hardware & Plastic Components**

Standard Types of Shower Enclosures

Type-6

Sl. No.	Item Description	Qty.
1	Glass to Glass Hinge 90	2
2	Wall to Glass Bracket	4
3	Floor to Glass Bracket	2
4	Water dispenser L=2000 mm	1
5	Wall Seal L=2500 mm	1
6	Magnetic seal -2500mm	1
7	Towel rod cum handrail	1
8	Support Bar -19mm dia rod	1
9	Rod to Glass Clamp	3
10	Wall to Rod Connector	2
11	"L" connector for support bars	1

**NPTTEL**

Coming to type 6, type 6 as we discussed what kind of hinges being used here is glass to glass, but 90 degree. Now you can see here clearly why 90 degree? Because the glass is in rectangular positions so, when glass is in rectangular position it is opening like this and that is why we are using here 90 degree. If I will be opening this glass on this wall I mean on this fix panel then here I can use 108 degree hinges of course, because this glass is coming in linear position.

So, the basic difference in between 90 degree and 180 degree hinges is if glass is opening in rectangular position will be using 90 degree angle hinges. If glass is using linear position we will be using 180 degree hinges.

So, that is the basic difference rest all other components will remain same like your wall to glass clamp here, wall to glass clamp here, then floor to glass clamp here, then again on fix panel wall to glass clamp here, wall to glass clamp here and then fix to floor to glass clamp. And this stabilizer all will come from one side to the another with the help of a L connector over here so, that is all. And plastic component as you are aware now that one for the door part, one for the wall side and one for floor so, all full length plastic part will be used.

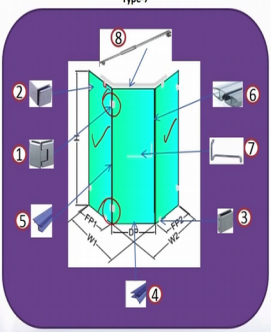
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**Shower Enclosure : Hardware & Plastic Components**

GLASS ACADEMY

Standard Types of Shower Enclosures

Type-7



Sl. No.	Item Description	Qty.
1	Glass to Glass Hinge L35	2
2	Wall to Glass Bracket	4
3	Floor to Glass Bracket	2
4	Water dispenser L-2000 mm	1
5	Middle Seal 1- 2500 long.	1
6	Magnetic seal -2500mm	1
7	Towel rod cum handrail	1
8	Pentagonal support bar	1

NPTEL

This is something different from wall to wall and corner which is known as type 7 category. Now, what is the different by seeing picture you can identify there is no wall either on left or right, then there is no wall in corner as well it is a kind of installation

which is known as face to wall. When you are having only facing wall and you do not have any corner or any wall to wall so, what you can do is? Most of the time this kind of installation will come when the bathroom is very very big, one corner suppose they are having some steam cabin some Jacuzzi is something else.

Another cabin they done some beautification, we will give you open wall like this and then open wall is there and customer will ask you to put a shower cubicle on that. So, what you can do is you can fix glass like this I mean the wall is here so, one part can be this one part can be this and the another can be this so, the same thing has been done in this picture.

So, we are providing a complete shower cubicle on the face wall. So, one fix panel will come in a tinted way, another fix panel will come like this. So, here door is opening on this glass, you can see either it is not 90 degree nor it is 180. So, here the hinges which is being used is basically glass to glass 135 degree, because it is opening at a certain angle which is not 90, which is not 180.

So, it is opening on a certain angle which is known as 135 degree angle. So, typically the hinges which is being used in this category is glass to glass 135, but this model is rarely being promoted in market because, most of the client are looking for shower setup either in any of the corner of bathroom.

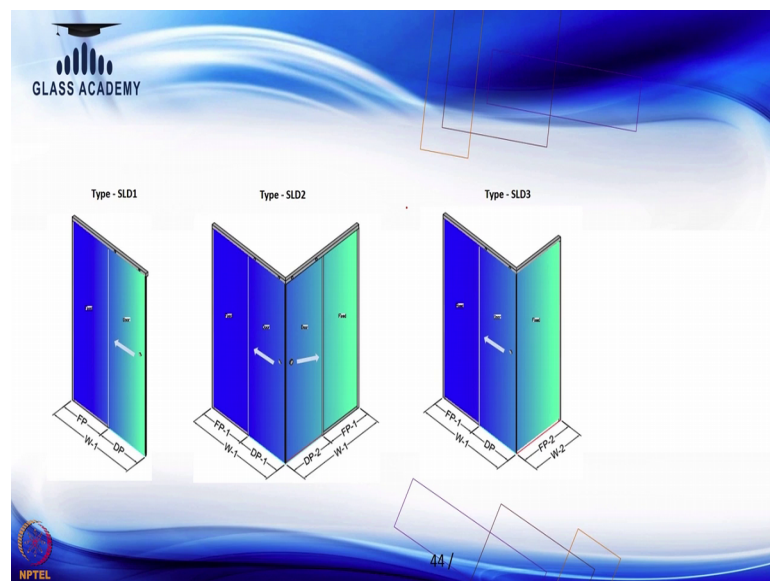
So, mostly we will be looking for corner or maybe wall to wall enclosure. So, that is not the various part of this product category, if rarely somebody is asking yes of course, there is a solution in market you can go for that kind of hinges. So, just for our awareness we need to understand that what is 135 degree? Otherwise commonly the hinges which is being used is 90 degree glass to glass or 180 degree glass to glass. Other than that glass to glass there is one category which is wall to glass, which is commonly used if you are glass door is going to be put up on wall.

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So, that is all for wall to wall door opening. Now, we will go through the sliding model.

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As I said there is a possibility in sliding also so, we will see through it you can see there are basic three type of sliding models available in market. The first sliding model is sliding 1, where you can see one is fix part another is door part, as like we saw in wall to wall type 2 whereas, the 1 fixed and 1 door. So, in same way one fixed and one is sliding the another one is corner sliding I mean type 2 and type 3 in sliding is corner where are 2 fixed and 2 moving. So, these 2 fix and these 2 are moving both left hand side opening

like this, as we saw in fix corner also one door is opening like this another is opening like this. So, this complete system will have that profile mechanism it needs more and more cleanliness more and more effort to make it clean.

In type 3 you can see here 1 fixed and 1 door opening on one side means two fixed and one sliding door opening on the left side. So, these are basically or I would say commonly used sliding models in market whereas, the most commonly used model is the sliding 1.

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**Shower Enclosure : Hardware & Plastic Components**

GLASS ACADEMY

Standard Types of Shower Enclosures – Sliding Door

Type- SLD1

Sl. No.	Item Description	Qty.
1	Sliding Track-Alumn, 2000mm	1
2	Cover for Sliding Track-Alumn, 2000mm	1
3	Sliding Door Roller dia 35mm-2nos and Accessories, Floor Guide	1
4	Water disperser L=2000 mm	1
5	Magnetic seal -2500mm	1
6	'U' Profile for Magnetic Support Profile, 2000mm	1
7	Door Knob, SS	1
8	Wall Connecting profile-2000mm, SS	1

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So, I will take you through the specification of this part, when you are going to select type 1 category you can see here on the top you need a channel, to keep your roller inside it to hang the glass inside it because, the glass will be holded on top, why because top? Because rollers are running on the track, if we are putting track at the bottom it will absorb moisture, it will get water, it will get dust and dirt accumulated. So, the movement of rollers will not be that is easy.

Whereas if you are going to fix the rollers on the top, it would not accumulate water in the channel so, it will be very easy to go for a longer period of time and same way it will be easy for cleaning also. So, mostly we will see in sliding track; the channel being used on top. The same way here also you can see the top channel is there then there are rollers and there is nob to move this glass door. Then on the sides there will be plastic seal to prevent water to come out, on the other side where is the glass being overlapped here



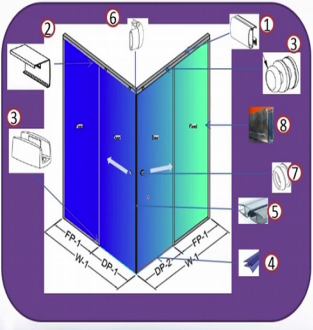
there also some plastic seal will be there. So, while opening the door like this, seals will be there should not come out.

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**Shower Enclosure : Hardware & Plastic Components**

GLASS ACADEMY

Standard Types of Shower Enclosures – Sliding Door  
Type- SLD2



Sl. No.	Item Description	Qty.
1	Sliding Track Alum, 2400mm	1
2	Cover for Sliding Track Alum, 2400mm	1
3	Sliding Door Roller dia 35mm-2nos and Accessories, Floor Guide	2
4	Water dispenser L=2000 mm	1
5	Magnetic seal -2500mm	1
6	Track corner Joint (L)	1
7	Door Knob, SS	2
8	Wall Connecting profile-2000mm, SS	2

NPTEL

Type 2, the only in number of fix panel changes and the orientation so, here as we discussed one fixed one fixed here 2 doors opening on the opposite direction, left is opening left side right is opening on right side. So, in this also same kind of channel will be used in top, mostly when it comes to sliding there are two type of channel available; one is with visible rollers, one with non visible roller.

I am sure you understand rollers on the basis of which the glass will rotate from left to right. It is a very common thing which is being used in different multiplexes, cinemas or some showrooms also the moment you enter door will open like that or you also having sliding door you move it like this. So, all the sliding door moves on rollers. So, this rollers; I mean the channel can be of two categories, where is the rollers will be visible. You might have also experience in some commercial phases if you go and you look at the top you can see the rollers. There are the different kind of channel which is completely packed like this roller so, the channel will come in this way.



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So, you cannot see the channel will be rollers will be keep on moving inside. So, that depend on the customer selection, if he is interested to show his rollers or if he interested not to show rollers just to show the channel it should be more beautified in than that way. So, you can select the category I mean the type of channel, whether it is visible roller or invisible roller channel.

That is the, I mean again aesthetical part of this sliding model that what kind of channel should be suggest it. So, depending on customer requirement in our material availability you can suggest what kind of material should go for it what kind of channel they should go for it. Then coming to the third category of sliding model is 2 fix 1 door whereas, the difference is the door is opening on only one side. So, here because there is no hinges so, need not to think of about hinges and profile simply we need to think of the channel length. So, once the length is being specified, we will have to go for that channel and then again roller category plus the plastic component so, in this no hinges required. So, this is all about the product category and product selection.

After selecting the product we must know the prerequisite for installation also because, this is a product which is installation oriented. If you are not doing installation properly again maybe the hinges will get loose an after period of time or maybe the rollers would not be able to take the load of the glass so, glass will come down. The moment I say

glass will come down means glass will get burst. So, that is the most critical part of this category that we need to understand the installation part that is one thing.

And then secondly, why installation is critical? Because if you are taking a wrong measurement after getting glass at side nothing can be done because it is a toughened glass.

Once the glass is being toughened you cannot do anything, you cannot do drilling, you cannot do rubbing, you can do anything, like if door is there I mean plastic or any other material you can rub it, you can grind it, you can metal, you can access door, you can grind it, but when it is a glass door that to toughened you cannot do anything to it. So, installation and measurement is the most critical element of this category.

So, I will just take you through that also that we will be able to understand how to take the measurement and how to suggest our channel partner of for the technical associate people to take the right measurement.

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### Summary:

By the end of this video, you have learnt about the:

- Hardware and plastic components of various door models
- Identification of components of each door or panel model