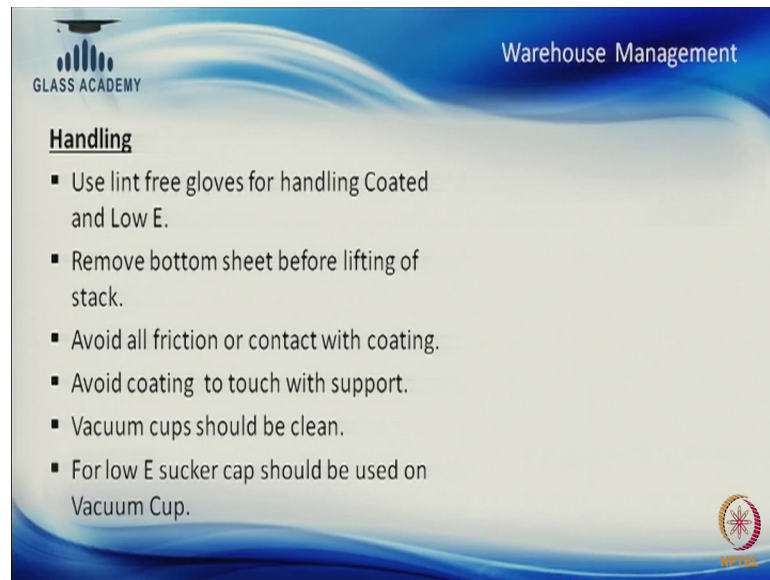


Glass Processing Technology
Prof. Mr. Shailesh Pathak
Indian Institute of Technology, Madras

Lecture – 18
Glass Warehouse Management

(Refer Slide Time: 00:21)



The slide is titled "Warehouse Management" and is part of the "GLASS ACADEMY" series. It features a blue and white wavy background. The text is as follows:

Handling

- Use lint free gloves for handling Coated and Low E.
- Remove bottom sheet before lifting of stack.
- Avoid all friction or contact with coating.
- Avoid coating to touch with support.
- Vacuum cups should be clean.
- For low E sucker cap should be used on Vacuum Cup.

In the bottom right corner, there is a small circular logo with a star-like pattern and the text "IITM" below it.

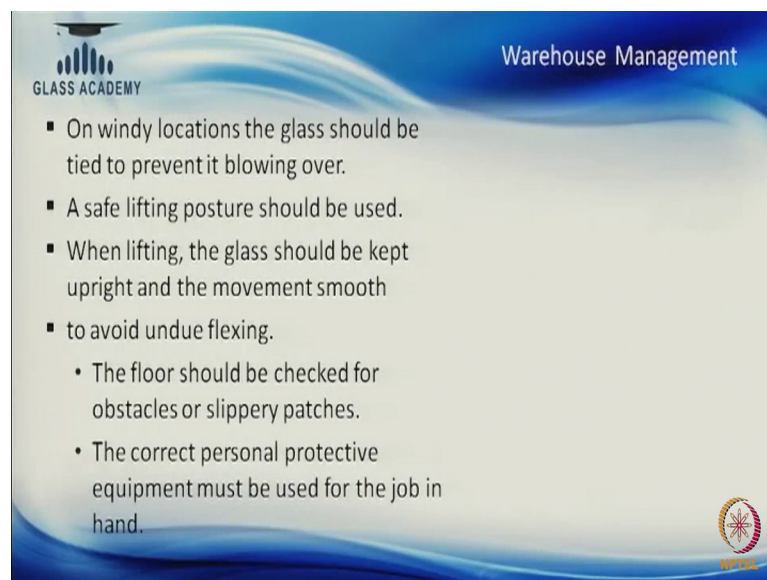
So now we will discuss about handling of the glass. Some of the points must have over from storage and unloading so they are common. So, when we are handling low E glasses or clean cleaning a glass then our gloves should be low lint free gloves. Remove bottom sheet before lifting of stack, I do not know we I feel we all understand that whenever we open a stack the top and bottom sheets are called backing sheets; it is a itself only for protection, we must remove that sheets before we use other glasses because that backing sheet is used for a protection only.

Avoid all frictions or contact with coating; any coating whether hard coat or soft coat they should not be touched or rubbed or otherwise they will get scratched or damaged customer will not accept and it will show poorly on our working. Avoid coating to touch with support; whenever we work we know which is coating side, which is tin side, which is outside. So, all these things should be taught to our staff and they should be able to identify and understand why they should not touch, why they should not put the coating side to the support, just to save the scratch on the coating.

Vacuum cups with mechanical unloading and loading we regularly use vacuum, and vacuum cups sometime gets its a rubber based cup so you have a lot of small particles trapped in that rubber. So, our vacuum cup should be cleaned or washed properly after the use, so that whenever we use next time there should not be any other thing.

And if we are using low E glass or a coated glass, those vacuum cups or those suction cup should have a protection. It can be a cloth cover or it can be a paper so, that any damage or any scratch on the vacuum cup should not get transferred on the coating side it should not spoil a glass.

(Refer Slide Time: 03:03)



The slide is titled "Warehouse Management" and is part of a presentation from "GLASS ACADEMY". It lists several safety precautions for handling glass in a warehouse setting. The text is as follows:

- On windy locations the glass should be tied to prevent it blowing over.
- A safe lifting posture should be used.
- When lifting, the glass should be kept upright and the movement smooth
- to avoid undue flexing.
 - The floor should be checked for obstacles or slippery patches.
 - The correct personal protective equipment must be used for the job in hand.

The slide also features a logo for "GLASS ACADEMY" in the top left corner and a circular logo in the bottom right corner.

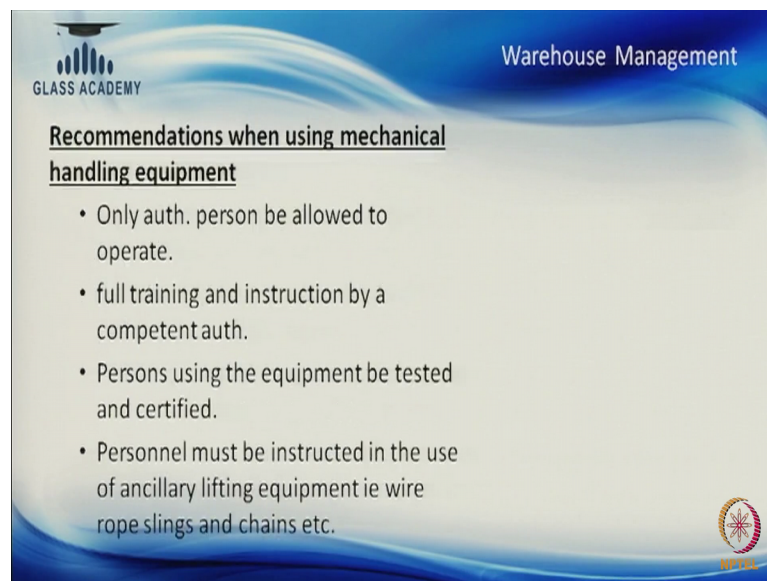
Few precautions on site; if our site is very windy or at very high rise building, then all glasses should be tied properly after stacking otherwise they will trip and fall. Whenever we are lifting a glass, a safe lifting posture should be used. In glass industry you will hear a lot of people have back problems lower back pains because every person does not lift properly and they put undue pressure on their vertebral column and develop problems.

So, when we are selecting a team which is lifting they should nearly be of equal height and when they are lifting all of them put a equal amount of efforts so, that all at a comfortable positions can lift and carry the glass to other location.

When we are lifting the motion should be smooth and at a upright position. So, that all team member we are part of the lifting team are facing the same pressure or at weight, if somebody is crouching and somebody straight, then it will be an uneven effort and it will result in a either too tired or dropping the glass or damaging the glass.

Avoid undue flexes; whenever we have to move glass out of those four five four people one guy or of five people one guy should inspect the route from where they will be taking the glass. That there is no obstruction if there is a step, he should want if there is some overhead something, he should breathe the team at certain angle when you are turning; you be careful of this thing or certain place you have a staircase or certain there is something lying, provoked most probably you must clean that area where they are moving, but otherwise they all must be informed so, that the motion or movement is smooth. Correct protective equipment must be used for the job. As I said before the correct gloves, correct armbands, correct shoes, and correct procedure should be used for handling the glass.

(Refer Slide Time: 05:56)



The slide features a blue header with the text 'Warehouse Management' on the right and the 'GLASS ACADEMY' logo on the left. The main content is titled 'Recommendations when using mechanical handling equipment' and lists four bullet points. A small circular logo is visible in the bottom right corner of the slide.

Warehouse Management

GLASS ACADEMY

Recommendations when using mechanical handling equipment

- Only auth. person be allowed to operate.
- full training and instruction by a competent auth.
- Persons using the equipment be tested and certified.
- Personnel must be instructed in the use of ancillary lifting equipment ie wire rope slings and chains etc.

Few recommendations when using mechanical handling equipment, your hydra operator or your a forklift operator should be well trained not only trained; they should be tested and certified for doing their job. [Vocalized-noise] In a big companies you have seen the folk lift operator is a specially trained in backward motion, ordinary guy cannot do that. So, your all team members maybe who is ever are using a forklift or hydra or any other

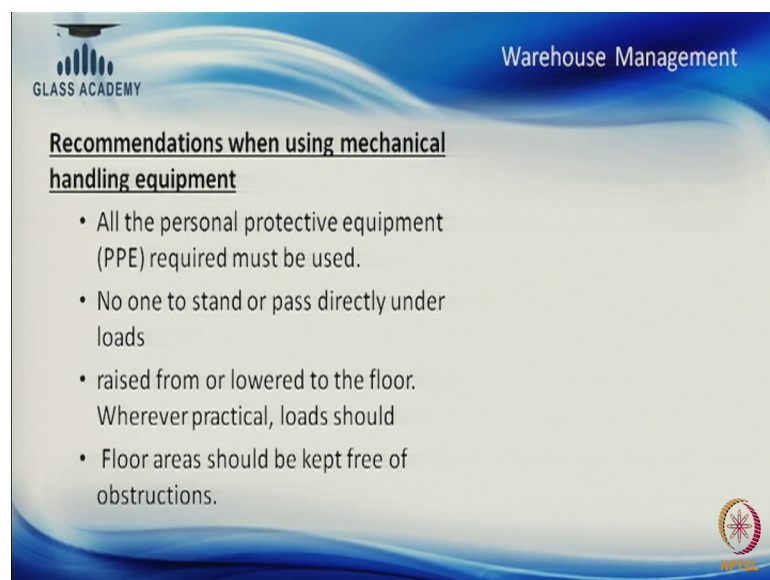
thing, they should be properly trained, they should be properly tested, and then certified before they put there or somebody else life at stake or a injury.

So, next is full training and instruction by competent authority. Generally in factories what happens a senior guy starts guiding and training this is a not a good train. Earlier this was a problem because there was hardly any training institute for this kind of a training, but nowadays in India when we have a lot of organizations which are working in this field from glass academy, to glazing society of India IIT Chennai, to IIT Roorkee; the lot of places where a sufficient training on a various topics is being imparted. So, we must strict to training procedure, testing procedure, as well as certification.

Not only they should be able to operate their own machine, they should also understand how to use sling, how to use belts, how to use other equipment, which they will be using along with their primary machines. I have given a list, but sometime people feel that helmet is not required, shoes are important, gloves are important.

So, this kind of a wisdom or this kind of a leave a should not be given to anybody especially all those person which are handling the glass, should be instructed or directed or so, that they use every PPE which is required

(Refer Slide Time: 08:33)



GLASS ACADEMY

Warehouse Management

Recommendations when using mechanical handling equipment

- All the personal protective equipment (PPE) required must be used.
- No one to stand or pass directly under loads
- raised from or lowered to the floor. Wherever practical, loads should
- Floor areas should be kept free of obstructions.

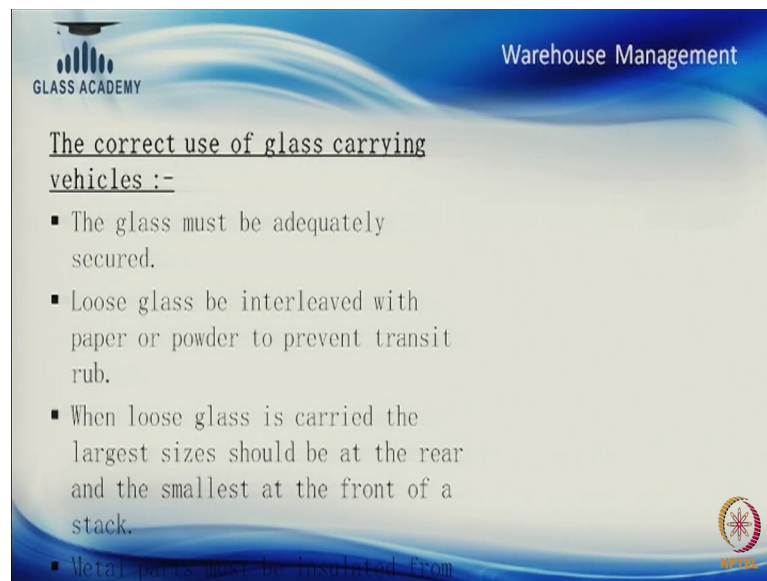
MPPL

It is not that they are there it is too hot to for helmet or too hot for gloves, no we have to force them that whenever they are lifting they have to use this proper PPE for that particular work.

Whenever we are lifting a heavy load, nobody to come near it is movement or area, nobody to pass through it, it should be totally banned, and some person senior should be there to control this thing. When a forklift operator is working somebody else should be controlling the motion or movement of the other people.

As I said before, whenever we are shifting from one level to another level so, floor leveling the staircase all those things should be taught told to our team beforehand and they should take proper movement so, that they do not trip and damage.

(Refer Slide Time: 09:57)



The slide is titled "Warehouse Management" and is from "GLASS ACADEMY". It contains the following text:

The correct use of glass carrying vehicles :-

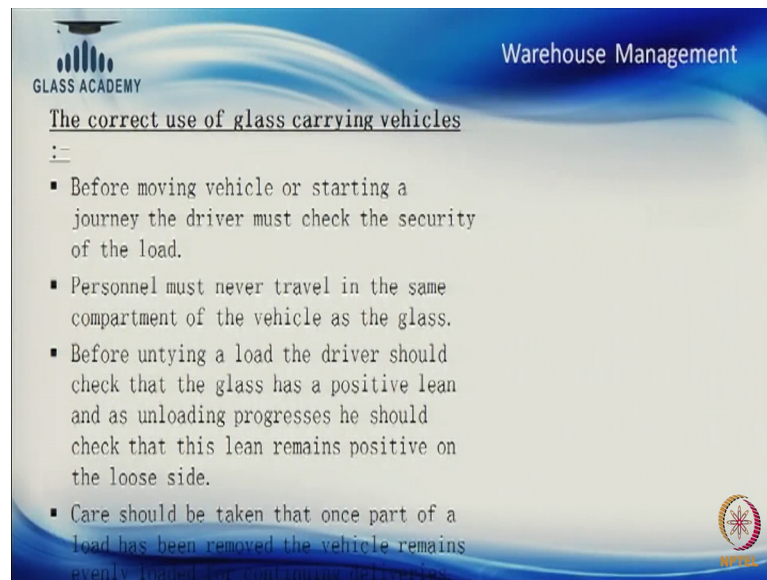
- The glass must be adequately secured.
- Loose glass be interleaved with paper or powder to prevent transit rub.
- When loose glass is carried the largest sizes should be at the rear and the smallest at the front of a stack.
- Metal parts must be insulated from

The slide also features a logo for "GLASS ACADEMY" in the top left and a circular logo in the bottom right corner.

Few points when we are loading a vehicle which is going to site. It means all glass have different size or a different thickness or a different process. So, glass must be adequately secured to the rack or to the vehicle. All loose glasses should be interleaved with the paper, or that powder, which generally we all put in between. If it is not there then it will result into a complain of scratches or a damage to the glass.

When we are shifting glasses of unequal this thing sizes, then the largest glass should be in the back of the rack and then in a reducing order we should a smaller size in the most outer location.

(Refer Slide Time: 11:08)



The slide is titled "Warehouse Management" and "The correct use of glass carrying vehicles". It lists four safety instructions for drivers:

- Before moving vehicle or starting a journey the driver must check the security of the load.
- Personnel must never travel in the same compartment of the vehicle as the glass.
- Before untying a load the driver should check that the glass has a positive lean and as unloading progresses he should check that this lean remains positive on the loose side.
- Care should be taken that once part of a load has been removed the vehicle remains evenly loaded for road transport.

Correct use of glass carrying vehicle. Before moving vehicle or starting a journey driver must check all lashes all ropes that it has been properly tied up. If because of some mistake he has jumped over a speed breaker or on a pothole, he must stop at certain location and then check Lessing's and ropes again.

The vehicle which is carrying the stuff the vehicle I am sorry I repeated again the vehicle which is carrying the glass staff should not travel in that vehicle. It is illegal from our traffic police point of view as well as risky for our team. Before untying or unloading, the same precautions we must take the precautions, which we had took when we were unloading the vehicle whit had come from the supplier.

Right now our load may be smaller we are shifting the glass from our factory to the site, but all those things like securing unloading from both sides so, that it is a balanced vehicle is balanced. There is no loose, no glass which is which is lying in a position that the moment we open it fall. Care should be taken that one part of load have been removed vehicle should remain in a even location.

(Refer Slide Time: 13:11)

Summary:

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

- Glass handling
- Recommendations when using mechanical handling equipment
- Correct usage of glass carrying vehicles

