Metal Beam Crash Barrier

Installation Methodology

CONTENTS

1. INTRODUCTION:

A **crash barrier** system is an effective way to ensure road safety, traffic control and reduce road fatality. It makes roads safer for motorists as well as pedestrians. It can be used as a centre line divider to segregate two opposing traffic flows and prevent cross-over collisions. It can also be installed on either side of the road to prevent vehicles from skidding off the road. There are many types of crash barriers, some of the most popular ones are:

- W Beam Crash Barriers: W Beam Crash Barriers are called so because they have a thick 'W' shaped beam rail element.
- Thrie Beam Crash Barriers: Thrie Beam Crash Barriers feature a triple wave shape beam rail. Compared to two-wave shape products, this design has a stronger construction and higher impact endurance.

Here are some advantages of crash barriers:

- ## Road safety:

With accidents increasing alarmingly, road safety has become top priority for administration, infrastructure and EPC contractors. Proper crash barriers can help prevent accidents and help minimise the extent of risk and damage to vehicles and passengers in case an accident occurs.

Here's how crash barriers ensure road safety:
When installed along the median strip, a crash barrier prevents the vehicles from colliding. It protects the commuters from roadside obstacles or hazards such as boulders, large storm drains, water bodies and steep slopes.
When installed on a bridge, crash barriers can help prevent pedestrians, trucks, buses and cyclists from rolling over the barrier and falling over the other side â€“ be it roadway, river or a railroad below.

- ## Help in minimising the impact of collisions:

During a highway collision, vehicles tend to go sideways. In the absence of a crash barrier, the vehicles involved in the accidents can cross-over to the other side, putting other motorists in danger. If it's a bridge, the vehicle can fall off it and lead to fatal accidents. However, when the vehicle hits the crash barrier the vehicle gets redirected back onto the road. A crash barrier absorbs the impact energy, reducing the extent of damage.

- ## Streamline traffic:

When installed along the median strip, it prevents motorists from taking wrong lanes, thereby streamlining traffic and reducing chances of traffic congestion.

- ## Prevent accidents at night:

As crash barriers have reflectors on them, this makes them easy to notice during the night. They are effective in avoiding accidents and preventing vehicles from going off the road in the dark.

- ## Little or no upkeep:

Metal crash barriers withstand high impacts easily and yet require very less maintenance, especially when compared to other road safety barriers.

2. Material Storage

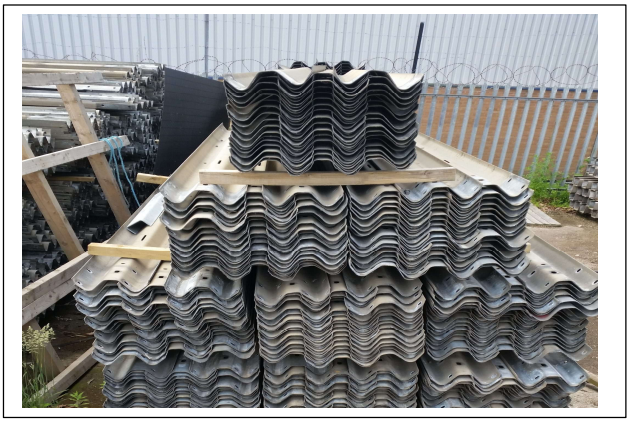
When the material reached the site followings to be followed:

A. Storage area must be dry and free from any water logging.

DRY STORAGE AREA

B. Ensure availability proper wooden block or slab to stack the materials.

WOODEN BLOCK



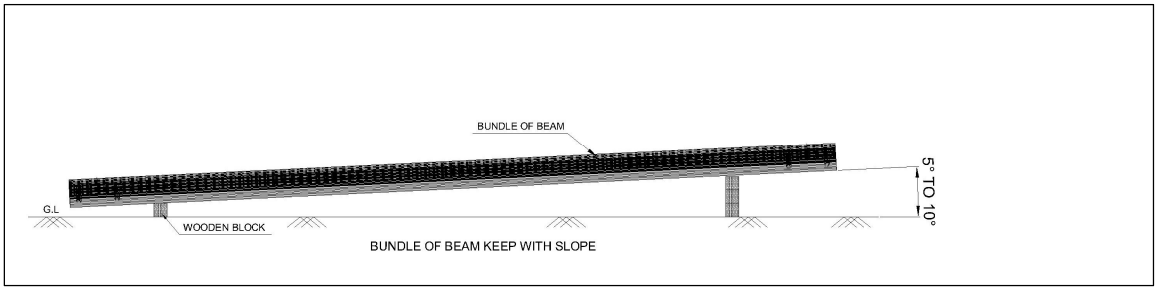
USE OF WOODEN BLOCK IN BETWEEN THE BUNDLE

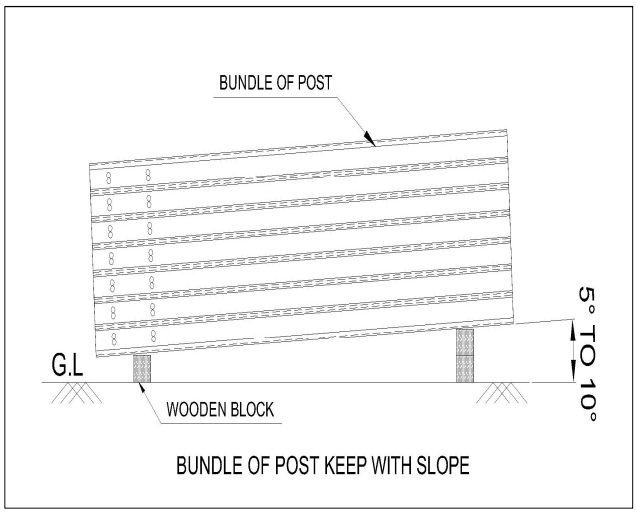
C. Ensure the availability of hydra to unload the vehicle by using nylon sling to avoid any kind of handling damage while unloading or stacking.

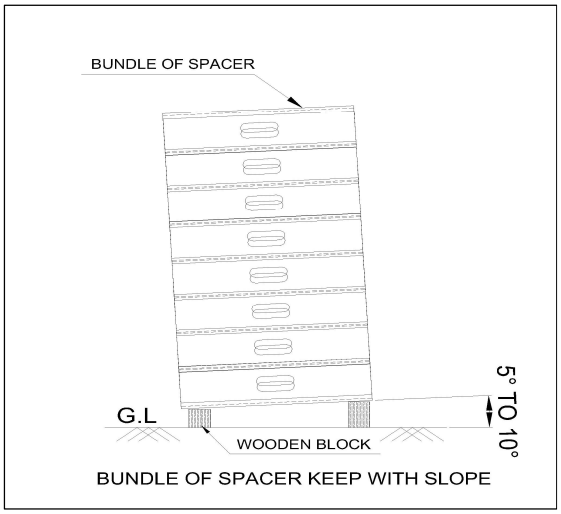
NYLON SLING

HYDRA

D. While stacking the material, ensure the materials must be kept on a slope i.e. 5° to 10° to avoid any accumulation of water/ moisture.
Ensure proper ventilation in between the lots to avoid formation of white rust. As the white rust happens due to accumulation of water/moisture over & In between the material stacks and layers.







KEEP SLOPE & USE WOODEN BLOCK FOR PROPER

Note:

For any kind of handling damage and white rust issue M/s Utkarsh India Limited will not be responsible.

3. Site Preparation

As per the design, at the installation line do the following:

a. Check the soil condition whether it is normal or rocky. Because the post materials are designed for the normal soil, for the rocky soil grade of post materials has to be discussed with design team.
b. Clear the obstacles such as vegetation, debris, or construction waste etc.
c. Ensure the proper access to the installation line.
d. Prepare the site as per the MoRTH / NHAI.
e. Materials used for installation to be kept properly.
f. No material shall be moved by pulling/scratching over the surface, as it will generate scratches over the materials.
g. Move the material by using Hydra.

Note:

For any kind of handling damage issue M/s Utkarsh India Limited will not be responsible.

4. Marking & Post Installation

a. Mark the alignment where the crash barrier will be installed (Distance from road as per norms/standard must be provided by Site Engineer etc.)

b. Mark the positions for the posts to be installed.

c. Posts are installed with CBIM as per drawing.

d. The posts are aligned according to the marked line.

e. Temporarily brace the posts for cross checking the alignment.

f. While Hammering the post using CBIM, keep in mind that the soil condition (as mentioned in Site preparation point clause 2.a), hammering force should be proper so that material shall not be damaged.

g. Use all required PPE and safety guidelines.

Note:

For any kind of erection or handling damage issue M/s Utkarsh India Limited will not be responsible.

5. Spacer & Beam Installation:

a. Attach the spacers to the posts using bolts as per the drawing.
b. Attach Beam to Spacer using bolts and ensuring Beams are overlapped correctly at the joint as per drawing.
c. Tighten the bolts properly ensuring a secure connection.
d. Check the alignment and height of the Beam to ensure that follows the design guidelines as per drawing.

Note:

For any kind of erection or handling damage issue M/s Utkarsh India Limited will not be responsible.

W-BEAM

THRIE-BEAM

6. Quality Control and Inspection:

a. Quality control engineer at contractor end has to be check the installed MBCB system as per the specified Design/Drawing & Installation Procedure.

b. Confirm that the posts are vertically aligned and that the beam maintains a uniform height as per specified Design/Drawing.

c. All the material shall be assembled and installed properly.

7. Final Site Cleaning:

a. Clear all unwanted/waste materials from the Site.

b. Follow the all the instruction of Client/Site engineer & MoRTH / NHAI as per the specified guidelines/Standard.

8. CONTACT DETAILS

E-MAIL: info@utkarshindia.in

Contact details :

1. +91-90736-74347
2. 033- 2264-6666
3. 033- 2265-8888