

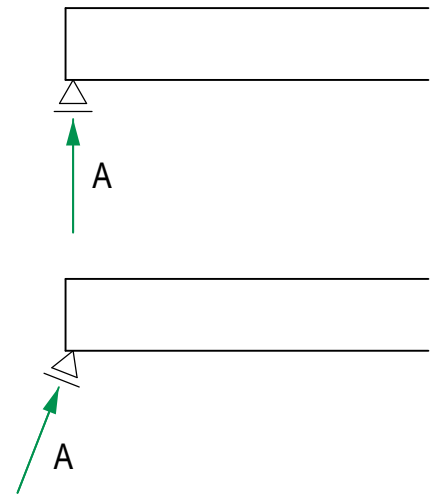
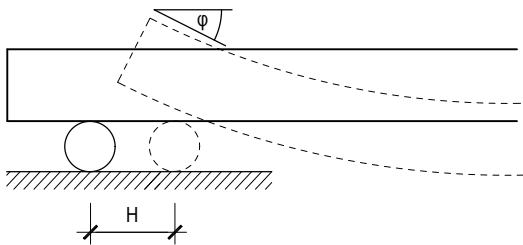
# 5.1

## Supports

The supports are defined as the parts of structure where it is supported by other structures or by the building ground. Depending on the type of support, different types of reaction forces are possible. These depend on the different number of possible movements of the structure at the support.

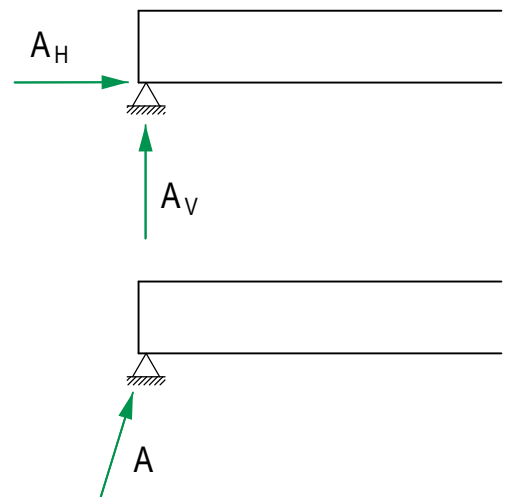
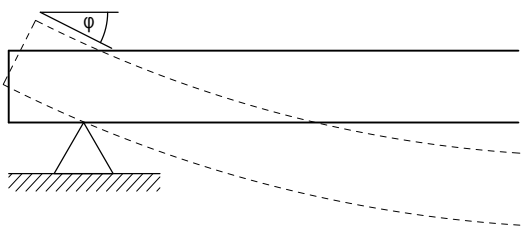
### Roller

A roller allows both rotation ( $\varphi$ ) and a horizontal movement H of the support. A roller can only take a reaction force A which is perpendicular to the shifting direction of the support. In general it is directed vertically. The roller is also called *simple support*.



### Hinge or Pin

Hinges or pins allow rotation ( $\varphi$ ), but no displacement, horizontal or vertical movement of the support. The reaction force can be divided into the two components  $A_h$  and  $A_v$ . The hinge is also called *fixed support*.



form diagrams 1:100

force diagrams 1cm  $\hat{=}$  10kN