

# Nord-Lock washers joint guide



## Tapped holes

Nord-Lock washers safely lock the bolt against the underlying surface.



## Counter bores

The outer diameter of regular Nord-Lock washers is designed for counter-bore holes according to DIN 974, i.e. the washers fit under the head of standard bolts.



## Through holes

As for all locking washers, through holes require two pairs of Nord-Lock washers – one pair for securing the bolt and a second pair for securing the nut.

Turn both fasteners in order to close the cams on both washer pairs before tightening to minimize settlements. Keep the nut secure whilst tightening the bolt.



## Stud bolts

Nord-Lock washers safely lock the nut on stud bolts and eliminate the need for adhesives.



Large / slotted holes



Soft underlying surfaces

## Applications with large / slotted holes or soft underlying surfaces

To optimize the load distribution for applications with large / slotted holes or with soft underlying surface, use a flanged nut / bolt together with Nord-Lock "SP" washers with enlarged outer diameter.



## Designs where Nord-Lock washers are not recommended

- Mating surfaces that are not locked in place (see left figure)
- Mating surfaces harder than the washers
- Very soft mating surface, e.g. wood, plastic
- Applications with extremely large settlements
- Non-preloaded joints

*If your application corresponds to one or more of the mentioned design criteria, contact your Nord-Lock representative and we will help you find an alternative solution.*