



Automatic rail clamps

Large moving equipment collapse

Storm brakes acting on harbour cranes, forklifts, reclaimers, ship loaders wheels and rails are essential safety equipment.



Those handling gears are often operated during adverse weather conditions. Especially under heavy wind (in harbour areas for instance), collapse or collision of moving equipment can occur

A wide range of equipment

Automatic rail clamp is a storm brake product that is truck mounted and that applies braking force directly to the rail edges.



Some operate as a simple brake on longitudinal movements





Others work both as a brake on longitudinal movements and restrain vertical movements.



There is neither standard nor listing for this specific product.

- Prefer automatic rail clamps that also restrain vertical movements
- Opt for fail-safe devices: spring applied - requires human action for releasing the brakes
- Choose suitable and customized rail clamp and shoe for the case application taking into account capacity in kN (depends on max wind), friction factor (usually 0,5), setting time, power unit (integrally mounted or remote)
- Serrated shoes are standard for rail clamps; Smooth shoes are optional, for dynamic stopping

Choosing automatic rail clamps manufactured by well known companies with a good market reputation is highly recommended. Ensure that regular tests and inspections are performed in accordance with quality control procedures, including the control of friction factor.

Additional measures for a better risk control

A set of additional safety measures dependent on local weather conditions are also suggested :

- Install anemometers on site which give a visible or audible alarm to the bridge operator at a pre-determined wind velocity
- When the alarm is triggered, launch the shutdown and safety procedures



- Maintenance and visual inspection of automatic rail clamps should cover hydraulic oil level, shoes, flexible pipes, spring, lubrication and other topic as per manufacturer guidelines

- For better efficiency of clamps system ensure that the rails are in a good state (no cracks or excess of wear). Normal hardness values for rails are around 200-270HB $\sigma = 70-90 \text{ daN/mm}^2$.