



# Motorcyclist Protection System



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## 1. OBJECTIVE

The Star sub-rail produced by the Norwegian company Hallingplast AS, is a continuous motorcyclist protection system with the purpose of retaining and redirecting an impacting rider and preventing direct impact with dangerous elements of the barrier such as the posts. It also prevent the sliding rider from passing between the posts under the barrier and coming into contact with any hazard behind the barrier.

## 2. DESCRIPTION OF THE SYSTEM

Star sub-rail is made like a mat consisting of 4 or 5 tubes welded together in a length of 6 m. These are linked together with a telescopic system of tubes which gives the system freedom to expand or contract depending of the temperature. The tubes are made of polyethylene which is a little elastic and absorb a lot of energy by deformation. When a sliding rider hit the sub-rail, the plastic tubes will be squished and the mat bent out. These deformations will absorb a lot of the riders energy and retaining and redirect him in a subdued way and within admissible severity levels.

## 3. COMPONENTS

Star sub-rail is made of polyethylene and with specifications given in the drawing. The sub-rail is fixed to the posts made of steel, plastic or wood by bolts. The length of the bolts depends on the dimension and shape of the posts.

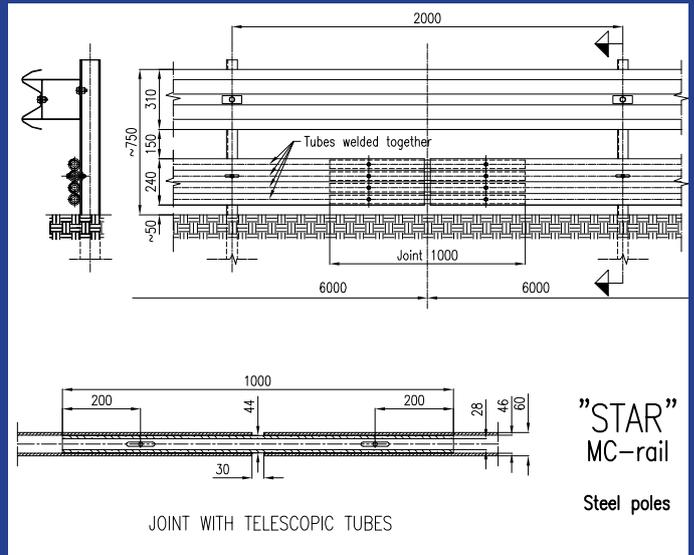
## 4. TESTS AND APPROVAL

There is no national test standard for motorcycle protective systems in Norway.

Star sub-rail has been tested by Nordic Test Center i accordance with parts of the Draft EN-1317-8. ( ATD weight 86,5, speed 60 km/h, approach path 30 degrees, mid-span impact).

After the impact no damages were found in the dummy or the sub-rail. Based on the test result and the film of the impact Star sub-rail has been approved for use in Norway.

Full-scale test with Star sub-rail and steel barrier fixed to plastic posts, has been executed in accordance with EN-1317-2 (passengers cars) with acceptable result.



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