

## **MARYLAND METRICS**

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**TECHNICAL INFORMATION and DATA**

## **Electroplated high-tensile steel, electroplated spring steel**

### **Risk of failure due to hydrogen embrittlement**

#### Steel fasteners

- with a hardness of 320 HV and more (property class 10.9 and higher/spring steel) or which have been surface hardened
- which have been chemically and/or electrochemically treated and have therefore absorbed hydrogen
- which are under tensile stress

may be subject to the mechanism of hydrogen embrittlement.

Appropriate precautions (choice of raw material, cleaning in inhibited acid only or by sand-blasting, plating in high cathodic efficient solutions, baking after plating in accordance with ISO 4042) can help to reduce the risk of hydrogen embrittlement.

Based on the technical know-how of our suppliers and our own experience, we supply fasteners of property classes 10.9 and higher, as well as fasteners made of spring steel in electroplated and baked condition.

According to the present state of the art, the risk of hydrogen induced embrittlement is very low, however, it cannot be totally excluded.

All parts can also be supplied dacrometized or mechanically plated. The risk of hydrogen embrittlement is completely eliminated by these processes.

As the user of the fasteners, only you fully know the applications and the pertaining risks. And only you are in a position to establish a cost-effectiveness analysis for the chosen type of plating (low-price electroplating and baking with a calculated risk or high-price special plating without risk) . Be sure to give us the relevant instructions when placing your order.

We also stock certain items and sizes dacrometized or mechanically plated.