












By ever increasing quality demands in the market and the associated zero-defect philosophy of ISO TS 16949, we must make you aware of the possible risks in the production, packaging and transport of your products. With this classification, we have to show you the risks associated with damage of stamped parts in series production process till they arrive in your home. This classification is valid if no item-specific PPM project-agreements, special packaging requirements or additional 100% final inspections have been agreed with our company.

| Quality-Stage 1 | Component in blisters and KLT | Example |
|--|--|---|
| packaging | individually wrapped in plastic blister fixed and enclosed. Plastic blister sealed in plastic box with lid. Affecting at bondable products a „must have“ for the parts quality. |   |
| possible damages in packaging | When stacking, stretching and wrapping the blisters may occur at the desired separation points (up to 0.6 mm) also come in blister packs depending on the geometry to form unfaithful bending. | |
| possible damage during handling | When handling, depending on the commonly agreed production rate the placing of the parts in blister we can give no 100% security guarantee | |
| possible damages transport | Parts can be bent at large vibration in transport to the desired separation points | |
| risk Assessment | PPM ≤ 20 | |

| Quality-Stage 2 | Component ply placed individually in cardboard | Example |
|--|---|---|
| packaging | Individually wrapped and placed in layers adjacent boxes. Cardboard as floor demarcation. Secured cartons on euro-pallet or EW with ribbons or mesh. Both models are water resistant with transparent foil. |    |
| possible damages in packaging | Risk at the onset of the goods to the holding bar (up to 1 mm wide). Depending on the geometry and complexity (stiffness) can lead to a form opposite to the bending unfaithful geometry on the holding webs. The geometry of the stamping part is safe | |
| possible damage during handling | When handling, depending on the commonly agreed production rate in depositing the parts and unpacking the parts in a box within a position (slipping) and the carton (stack differences) are not 100% guaranteed security | |
| possible damages transport | The risk of transport damage by impact, sharp braking and vibration during transport and logistics, as parts can be pushed together and bent ply. (Due to predetermined breaking point) Additional information on packaging: Not Stackable (TOP) | |
| risk Assessment | PPM ≤ 200 | |

| Quality Stage 3 | Component by loose ply separation | Example |
|--|---|--|
| packaging | Items via outfeed conveyor punched directly into cartons. Quantity Steered intermediate layer of tissue paper. In individual cases in polybag inserted depends on the quantity. Secured cartons on euro-pallet or EW-pallets with 4 tapes. Both models are water resistant with transparent foil. |    |
| possible damages in packaging | When packing and unpacking, there may be a slight deflection and entanglements of the parts (clustering effect) occur due to the bulk parts and multiple layers. The board is double-walled and in each individual safe. The amount of fidelity per box is important as it may cause stunting. | |
| possible damage during handling | Loose pieces fall from the conveyor belt into the pack and claimed herein geometrically. This can vary depending on the size and complexity (stiffness) the stamped part come to form against the unfaithful bending geometry in the region of the support webs. | |
| possible damages transport | Risk of transport damage by impact and pressure, sharp braking and vibration during transport and logistics, as parts can be pushed together and bent ply. Insured by wedging of individual parts and the resulting bending of parts are possible. Additional information on packaging: Not Stackable (TOP) | |
| risk Assessment | PPM ≤ 500 | |

| Quality Stage 4 | Component loose in box - Bulk production | Example |
|--|---|---|
| packaging | Parts stamping on discharge conveyor punched directly into cartons. Quantity-directed production in polybags, either ESD capability. Secured cartons on euro-pallet or One way paletts with ribbons or mesh. Both protected with foil. This version is only recommended for non-critical stable hardware |    |
| possible damages in packaging | Damage during packing and unpacking are low. Only a geometry-related clusters, depending on the material thickness in slight bends. Subsequent processes such as electroplating bulk would then have difficulties in the process of bare spots. | |
| possible damage during handling | Since this quality level is used only for stable small parts the expected damages from the process are low. Only by pressing the parts in the container may, depending on the material thickness and geometry in slight bends | |
| possible damages transport | Risk of transport damage by impact, sharp braking and vibration during transport and logistics, can be pushed together and bent. This is where the emerging pressure on the container a significant role. Insured by wedging of individual parts and the resulting deformations are possible. Additional information on packaging: Not Stackable (Top) | |
| risk Assessment | PPM ≤ 100 | |

Our rankings can be found on the Internet [www.hapema-gmbh.de \ downloads](http://www.hapema-gmbh.de/downloads)

Notes on the forms FB 141 and FB 142 are also available in our measurement sample reports and Order Confirmations.