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		Prepared by: Thiemann	Approved by: Boesche
KAG_N3004	<u>Marking of Parts</u>	Edition: 00	Date: 2018-04-17

Edition	Date	Author	Reason of change
00	2018-04-17	Thiemann	Initial state

Specific abbreviations	
KAG	→ KATHREIN Automotive Groupe
CS	→ Company Standard
CAD	→ Computer Aided Design
FOT	→ First Of Tool
PPAP	→ Production Part Approval Process
AE	→ American English
BE	→ British English
QA	→ Quality Assessment
IMDS	→ International Material Data System
EU	→ European Union
VDA	→ German Association of the Automotive Industry (Verband der Automobilindustrie)
DIN	→ German Institute for Standardization (Deutsche Industrie Norm)
ISO	→ International Organization for Standardization

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1. Scope

All norms and standards are valid in the version of the first creation date of the part drawing, if nothing else is defined in the drawing.

2. General specifications

- This standard describes the general requirements of marking parts for the **KAG supplier** for purchased parts which are designed by KAG.
- This standard must be a part of the inquiry drawing and has to be verified by the supplier in the PPAP.
- This standard will not be used for sheet metal or sheet metal bending parts which will be delivered to KAG

Possible deviations to the content of this norm from supplier side have to be confirmed in written form by KAG.

3. Definition

If there is not enough space on the part to apply all markings, then observe the following order of priority:

(1 = highest priority level – 6 = low level)

1. Part number with revision and **marking required by law and /or government**, date marking
2. Material code as per VDA 260.
3. Sample status (B,C-sample)
4. Country of origin
5. Manufacturers code
6. Logos

3.1. Marking required by law and /or governmental

The development authority of KAG has to check the requirement how and when officially markings are necessary. It must be marked on the drawing.

3.2. Language

Reference language for textual content is English (AE or BE)

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3.3. Prototype / Part / Product

3.3.1. Prototype

Is a composite which is made out of A and/or B-Samples are verified and /or mounted (electronic and / or mechanical) with labor equipment.

3.3.2. Part

A part is a single component acc. KAG drawing, which has to be defined as A-, B-, C-sample.

3.3.3. Product

In general, products (D-Samples) are made out of a different number of verified **C-samples** with a serial process and serial jigs.

3.4. Part definition

3.4.1. A – Samples

A - Samples (single part) are produced by, e.g.:

- Laser sintering,
- 3D printing
- Milling
- Turning
- The material deviates from the serial material and do not fulfill customer requirements.
- These parts are not subjected for PPAP
- No IMDS available
- Are mounted by hand

3.4.2. B – Samples

B – Samples (single part) are produced out of “Soft tools”.

- Out of original or matchable Material and with measurement verification.
- These parts are not subjected for PPAP
- No IMDS file available
- Parts are not yet in 100 % spec.
- Can be mounted by hand and/or pre-serial jigs
- Are applicable for a B-sample validation

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3.4.3. C – Samples

C – Samples (single part) are produced out of:

- Serial tools with PPAP, **released by KAG.**
- Serial process at supplier side
- IMDS Data is available
- Part marking acc. VDA 260
- Production line at supplier side is established.
- R@R will be performed with parts in these conditions.
- Are mounted by hand and/or serial jigs

3.4.4. D – Samples

D – Samples (**products**) are mounted out of C-Samples.

- All Supplier parts approved.
- Line in complete series condition.
- Only missing Customer PPAP approval to differentiate between series parts.
- Are marked acc. customer Spec; deviations have to be agreed in written form by the customer.

4. Lettering

Referenc type for lettering is roman letters and arabic numerary with the following font:

- Arial
- Calibri

The font size should be as large as possible to identify the content clearly.

5. Marking prospects

The supplier has to make sure, that his marking is permanent visible in the area and lettering, which is agreed, in written form, with the development-, and / or SQ authority of KAG.

- Printed marking
- Laser marking
- Label
- Tool bonded marking

The bar code family must be used additional for painted parts in regard of automatical readability.

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6. Marking of Parts for B/C-samples

The supplier must suggest a cost-effective marking of parts for small parts on which this standard is not applicable.

In regard to the production tool, the supplier is responsible to implement and document a part status, which enable a clear identification of the part status.

6.1. KAG part number / revision

Is necessary for an explicit identification of parts in different stages of development and for the serial production.

6.1.1. Part Number

The KAG part number must to be implemented in B and C samples

It is in the responsibility of the supplier to suggest a cost-effective implementation to the purchasing authority of KAG, in parallel to the development authority of KAG.

6.1.2. Revision

In regard to the KAG data management, the revision of a part must be implemented, starting with “a” or optional with “00” into B and C-Samples.

It is in the responsibility of the supplier to suggest a cost-effective implementation to the purchasing authority of KAG, in parallel to the development authority of KAG.

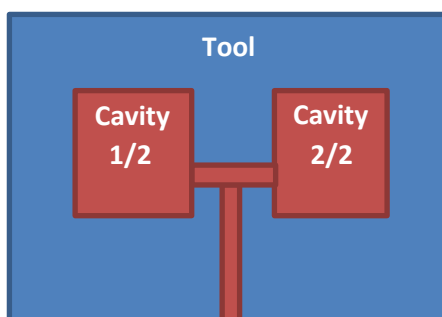
6.2. Cavity number

The KAG cavity number must be implemented into B and C Samples.

The marking must reflect the numbers of cavities and each cavity, e.g.:

A tool with only one cavity 1/1

A tool with two or more cavities 1/2, 2/2, and so on.



It is in the responsibility of the supplier to suggest a cost-effective implementation to the purchasing authority of KAG, in parallel to the development authority of KAG.

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6.3. Date marking

The Calendar clock is the standard for date marking.

- The months of manufacture must be marked in clockwise direction,
- The markings (Numbers and symbols) should be raised between 0.3 mm and 0.6 mm on a sunked area between 0.3 mm and 0.6 mm.
- The number of markings corresponds to the number of the calendar month in which the part was manufactured.



6.4. Marking of material acc. VDA 260

Material markings for components of motor vehicles have the exclusive purpose of optimum, type-specific recycling with reference to the material cycle. According to the EU Directive 2000/53/EC on end-of-life vehicles, published by the European Parliament and Council, this marking is considered compulsory for plastic parts. For components made from other materials, marking according to this material data sheet is recommended in order to make sure that uniform identification of materials is continuously provided, irrespective of the advertising strategies for certain materials and other recycling systems.

This material data sheet does not replace the measures required in order to make sure that manufacturers of vehicle components make appropriate information on disassembly, storage, and inspection of re-usable parts available to the licensed utilization facilities. However, implementation of these measures is to be facilitated.

Specifications for the identification of the material used for components, which are subject to other legal regulations, are not affected by this material data sheet.

The marking acc. VDA 260 don't acquit the supplier from IMDS.

6.5. Country of Origin

The country of origin of the part has to be acc. the international standard.

It is in the responsibility of the supplier to suggest a cost-effective implementation to the purchasing authority of KAG, in parallel to the development authority of KAG.

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7. Painted Part

KAG provides two drawings with different numbers:

- One drawing for the **raw part**.
- One drawing for the **Painted part**, which will be delivered to KAG

7.1.1. The raw part

The raw part must be handled acc. the Part definition for marking of parts.

7.1.2. Painting

The painting of an existing part is an additional downstreaming step, which has to be marked also on the part on the agreed area, with:

- Color
- Batch
- Colorcode
- Day of painting
- Additional Information should be implemented in agreement with the development authority of KAG

Covering of markings of the basic part is not allowed.

It is in the responsibility of the supplier to suggest a cost-effective implementation of this information to the purchasing authority of KAG, in parallel to the development authority of KAG.

8. Part Vita

All parts which will be delivered to KAG, must be documented with a part vita and have to be verified with the supplier company seal and responsible signature in duplicate.

- One copy at supplier side for delivery documentation.
- One document must be added to each delivery lot.

The following Information is necessary:

1. Part number with revision.
2. Date marking.
3. Number of parts of the current delivered lot.
4. Sample Status (B,C-Sample)
5. Material code as per VDA 260.
6. Country of origin
7. Manufacturers code (if requested).
8. **For painted parts:**
 - Color
 - Batch
 - Colorcode
 - Day of painting

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- Additional Information should be implemented in discussed with the development authority of KAG

The supplier must get in close contact with the supplier quality authority of KAG, in parallel to the development authority of KAG to get an agreement

9. Country abbreviation

The country abbreviation has to be according the international standard, e.g. DIN ISO 3166, with only two letters.

10. Sample Marking e.g.

1. Partnumber with revision

12345678 / a

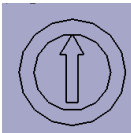
or

12345678 / 01

2. Material acc. VDA 620

>PC/ABS<

3. Date marking with e.g. Calendar clock



4. B,C Sample status e.g. "B"

B

5. Cavity Number: One of four

1 / 4

6. Country abbreviation

DE

All markings can be shared on the area which is agreed, in written form, with the MD authority of KAG.