



Simplified Drawing at Hella

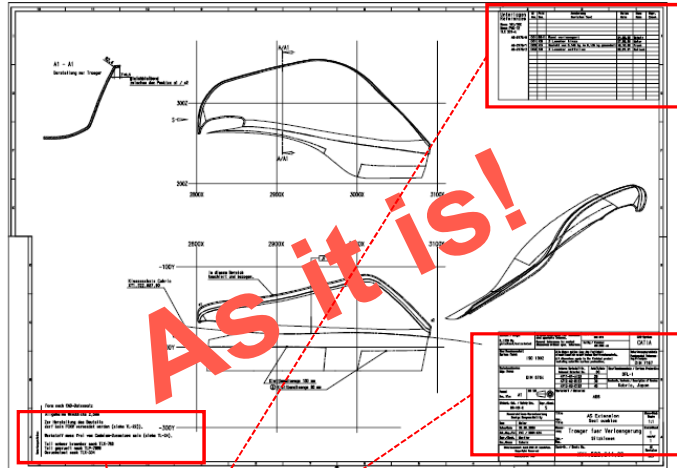
Realization of VDA 4953-1

Lippstadt, July 2018



Simplified Drawing

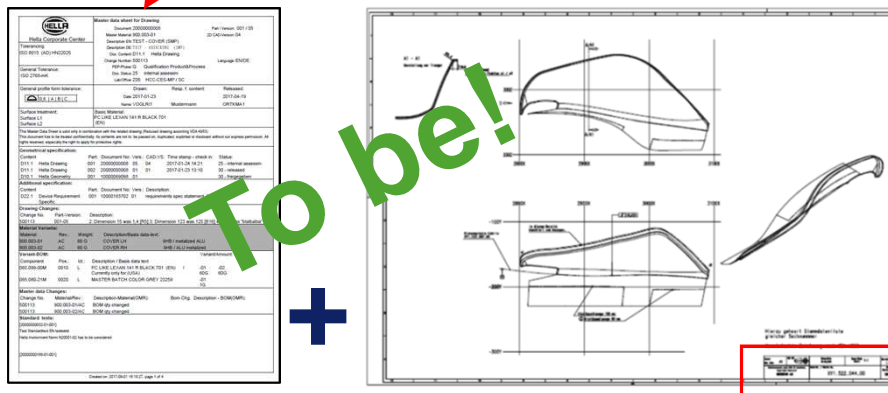
Aim of project



As it is:

- Drawing reflects PLM managed data redundantly!
- Risk of inconsistencies, caused by manual maintenance!
- No trustable PLM information for further processes! (ERP, Data-Warehouse, Teamcenter, IQS [ePPAP], etc.)
- Huge effort to keep information manually in synchronization!

According VDA 4953-1



To be:

- Reduced amount of update cycles for Hella Drawings! (25% reduced change cycles)
- Increased efficiency in change management process (ECM)!
- Improved master data quality
- Organization prepared for “3D-Master” (drawing-free process acc. VDA 4953-2)

Simplified Drawing Consequences

What will change ?

- Master data (are removed from drawing and shown in a separate Master Data Sheet (MDS))
- MDS is the main sheet which shows a list of other related document(s)
- Version of MDS can be pushed forward for non-geometrical updates while version of drawing remains as it is without inducing CAD work

Remarks:

- ✓ Simplified Drawings with MDS and “old” drawings are running parallel, means there is no conversion planned of “old” drawings
- ✓ GoLive dates:
 - Aftermarket Dec. 2017
 - Lighting and Electronics Feb. 2018

What is the same as today ?

- As today we have a document and material number for Identification
- In case of multiple material assignments a variant table is existing (on the MDS)
- The versioning rule for the Documents in PLM is the same as today.
- The material revision level is still the main key for Fit Form Function changes
- In addition to RevLv the change index is used to identify and mark geometrical adjustments
- Simplified Drawing is only used for document content D11.1 (Hella drawings), for other document contents is no change

Simplified Drawing

Example – Header data & List of related documents

HELLA
HELLA GmbH & Co. KGaA

Document: 10002020565 Part / Version: 001 / 04
Master Material: 900.003-01 (details see section "Material Variants")
Description EN: Test Simplified Drawing 1 (EN) Test123
Description DE: Test Simplified Drawing 1 (DE)
Doc. Content: D11.1 Hella Drawing
Change Number: 228619
PEP-Phase: D Detailing
Doc. Status: 25 internal assessm
Lab/Office: S21 L-H-SYS3
Language: EN/DE

Tolerancing: ISO 8015 (AD) HN22025

General Tolerance: DIN 6930-2 - x
ISO 2768-mK

General profile form tolerance: $\frac{\Delta}{0,5 | A | B | C-D}$

Surface treatment: Surface L1
Surface L2

Basic Material: See BOM

Drawn: 2017-07-30
Name: RUIZJU5
M. Ortkrass

Resp. f. content: Released

This Master Data Sheet is valid only in combination with the related drawing (Reduced drawing according VDA 4953). This document has to be treated confidentially. Its contents are not to be passed on, duplicated, exploited or disclosed without our express permission. All rights reserved, especially the right to apply for protective rights.

Geometrical specification:

Content	Part	Document No.	Vers.	CAD-VS:	Time stamp - check in:	Status:
D11.1 Hella Drawing	001	10002020565	04	01	2018-04-10 13:50	25 - internal assessm
D11.1 Hella Drawing	002	10002020565	01	01	2018-06-14 10:27	25 - internal assessm
D10.1 Hella Geometry	001	10000004228	01			25 - internal assessm

Additional specification:

Content	Part	Document No.	Vers.	Description:
D11.1 Hella Drawing	001	10002020565	04	01
D11.1 Hella Drawing	002	10002020565	01	01
D10.1 Hella Geometry	001	10000004228	01	

Material Variants:

Material	Rev.	Weight	Description/Basis data-test
900.003-01	AB	50,5 G	HOUSING LH installed 15mm thickness
900.003-02	AC	50,5 G	HOUSING RH
900.003-03	AA	50 G	HOUSING RAW
900.003-04	AA	50 G	HOUSING RAW

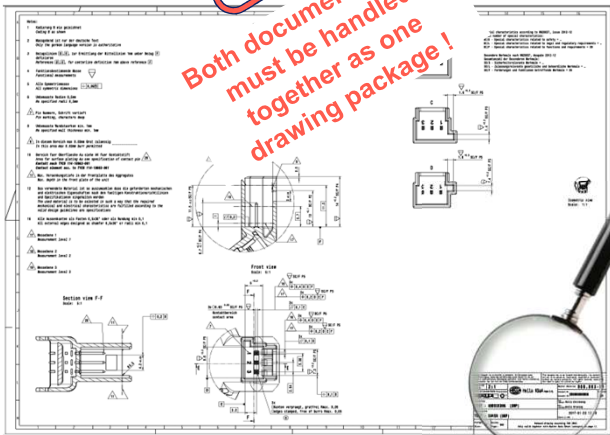
Variant BOM:

Component	Pos.	Qty	Description / Basis data test	01	02	03	04
965.338-5IM	0010	L	PC-ABS LUPPOY HR5007AC BLACK KA02	X	X	X	
900.003-03	0010	L	HOUSING RAW	X	X	X	
900.003-04	0010	L	HOUSING RAW	X	X	X	
000.689-12V	0020	L	LAQUERED 689 BLACK DEEP MATT	X	X	X	
200.074-37	0020	L	MOLDED-IN STUD M5x3x19 Blk-00, but surface finish galv. 20, 2109 C, acc. HN47102-07	X	X	X	

Drawing Changes:

Change No.	Part/Version:	Description:
228619	001-03	4. Maß e45 wear e45,5 (312) Code: 22222
228619	001-04	5. length 2,0 (313) 6. Tolerance was 0,2 7. Dimension 7 ass 7,5 (309) 8. Test changed PYY (312) 9. webinar example changed

Created on: 2018-04-10



HELLA
HELLA GmbH & Co. KGaA

Document: 10002020565 Part / Version: 001 / 04
Master Material: 900.003-01 (details see section "Material Variants")
Description EN: Test Simplified Drawing 1 (EN) Test123
Description DE: Test Simplified Drawing 1 (DE)
Doc. Content: D11.1 Hella Drawing
Change Number: 228619
PEP-Phase: D Detailing
Doc. Status: 25 internal assessm
Lab/Office: S21 L-H-SYS3
Language: EN/DE

Tolerancing: ISO 8015 (AD) HN22025

General Tolerance: DIN 6930-2 - x
ISO 2768-mK

General profile form tolerance: $\frac{\Delta}{0,5 | A | B | C-D}$

Surface treatment: Surface L1
Surface L2

Basic Material: See BOM

Drawn: 2017-07-30
Name: RUIZJU5
M. Ortkrass

Resp. f. content: Released

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Geometrical specification:

Content	Part	Document No.	Vers.	CAD-VS:	Time stamp - check in:	Status:
D11.1 Hella Drawing	001	10002020565	04	01	2018-04-10 13:50	25 - internal assessm
D11.1 Hella Drawing	002	10002020565	01	01	2018-06-14 10:27	25 - internal assessm
D10.1 Hella Geometry	001	10000004228	01			25 - internal assessm

Additional specification:

Content	Part	Document No.	Vers.:	Description:
D11.1 Hella Drawing	001	10002020565	04	01
D11.1 Hella Drawing	002	10002020565	01	01
D10.1 Hella Geometry	001	10000004228	01	

Version of PLM Document Information Record (DIR)

Version of CAD Document Item

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Master Material **900.003-01**

Document-Nr. **10002020565** CAD-VS **01**

Document No. **10002020565**

Doc. Inhalt: Hella-Zeichnung
Doc. content: Hella Drawing

Check-in CAD: 2017-07-30 14:21

Reduced drawing according VDA 4953
Only valid together with Master Data Sheet same Document No. (assigned to page 1)

Simplified Drawing

Example – Material assignment and change documentation

HELLA
HELLA GmbH & Co. KGaA

Drawing Master Data Sheet, valid for listed Material Variants and Revisions
 Document: 1000202555 Part / version: 001 / 04
 Master Material: 900.003-01 (Health and Safety: Master variant)
 Description EN: Test Simplified Drawing 1 (EN) Test123
 Description DE: Test Simplified Drawing 1 (DE)
 Doc. Control: D11.1 - Hella Drawing
 Change Number: 228619
 PPH-Projekt: D - Dabbling Language: EN/DE
 Doc. Status: 25 - internal assessm
 Laufrufe: S21 L-H-SY33

Tolerancing: ISO 8015 (A2) HN2025

General Tolerance: DIN 6132-2 x4
ISO 2768-mS

General profile form tolerance: 0,5 | A | B | C | D

Surface treatment: Surface L1
Surface L2

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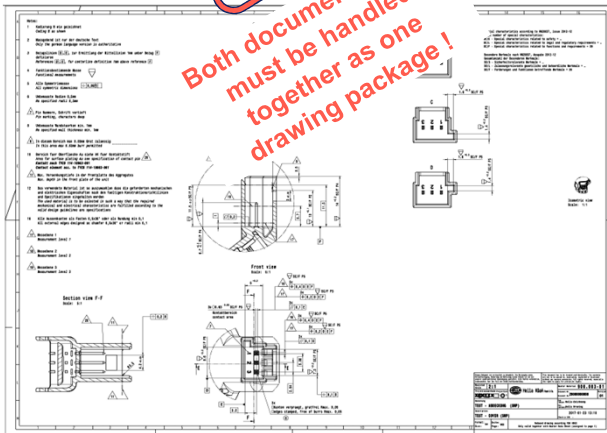
Geometrical specification:
 Content: D11.1 Hella Drawing Part: Document No. Vers.: CAD-V8: Time stamp - check in: Status:
 D11.1 Hella Drawing 001 1000202555 04 01 2018-04-10 13:50 25 - internal assessm
 D11.1 Hella Drawing 002 1000202555 01 01 2018-06-14 10:27 25 - internal assessm
 D10.1 Hella Geometry 001 1000004228 01 01 2018-06-14 10:27 25 - internal assessm

Additional specification:
 Content: Part: Document No. Vers.: Description:
 Material Variants:
 Material: Hov. Weight: Description/Basis data text:
 900.003-01 AB 50,5 G HOUSING LH
 900.003-02 AC 50,5 G HOUSING RH
 900.003-03 AA 50 G HOUSING RAW
 900.003-04 AA 50 G HOUSING RAW

Variant-BOM:
 Component Pos.: Ict.: Description / Basis data text Variant assignment
 065.339-51M 0010 L PC+ABS LUPOY HR5007AC BLACK KA02
 900.003-03 0010 L HOUSING RAW
 900.003-04 0010 L HOUSING RAW
 000.689-12V 0020 L LAQUERED 689 BLACK DEEP MATT
 200.074-37 0020 L MOULDED-IN STUD M5x31x19
 like -00, but surface finish gal Zn 2108 C, acc. HN47102-07

Drawing Changes:
 Change No. Part-Version: Description:
 228619 001-03 4: Maß ø45 war ø45,5 [Q12] Zeile 222222
 228619 001-04 5: length 2.0 [C13]
 6: Tolerance was 0,2
 7: Dimension 7 was 7,5 [B09]
 8: Text changed YYY [G12]
 9: webinar example change [A12]

Created on: 2018-07-04



Material Variants:

Material:	Rev.:	Weight:	Description/Basis data text:	
900.003-01	AB	50,5 G	HOUSING LH Anodized 15µm thickness	9BG
900.003-02	AC	50,5 G	HOUSING RH like -01 but mirror inverted	9BG
900.003-03	AA	50 G	HOUSING RAW	
900.003-04	AA	50 G	HOUSING RAW	

Variant-BOM:

Component	Pos.:	Ict.:	Description / Basis data text	-01	-02	-03	-04
065.339-51M	0010	L	PC+ABS LUPOY HR5007AC BLACK KA02			X	X
900.003-03	0010	L	HOUSING RAW	X			
900.003-04	0010	L	HOUSING RAW		X		
000.689-12V	0020	L	LAQUERED 689 BLACK DEEP MATT	X	X		
200.074-37	0020	L	MOULDED-IN STUD M5x31x19 like -00, but surface finish gal Zn 2108 C, acc. HN47102-07			X	X

Drawing Changes:

Change No.	Part-Version:	Description:
228619	001-03	4: Maß ø45 war ø45,5 [Q12]. Zeile 222222
228619	001-04	5: length 2.0 [C13] 6: Tolerance was 0,2 7: Dimension 7 was 7,5 [B09] 8: Text changed YYY [G12] 9: webinar example change [A12]

Created on: 2018-07-04 10:01:10, page 1 of 4

Drawing changes from last change no.

Material-Number assignment with RevLv, weight etc.

BOM block with Position data related to the Material variants

Change-Index: Description [Zone on drawing]

Master data Changes:

Change No.	Material/Rev.:	Description-Material(OMR):	Bom Chg.	Description - BOM(OMR):
228619	900.003-01/AB	Weight was 30g		
228619	900.003-02/AC	Weight was 30g		

Standard texts:

[10002002531-01-001]
Hella Environmental Standard HN20100-02 to be considered

Standard texts, if assigned, Implemented later

Change description of master data changes



Simplified Drawing

ePPAP related info (IQS-Portal)

1. In the IQS portal you find min. 2 pages, one for the MDS and one for the drawing. The **page selection** can be done in the red marked area.
2. The characteristics in the middle area are shown only for the selected page
3. A printing is still possible via the Administration menu point

The screenshot displays the IQS Portal interface for a drawing. The left sidebar contains the 'Administration' menu (3). The central area shows 'All characteristics' (2) with a list of characteristics: 40 3 0.045 -0.045 /, 50 PA6 GF30 /, 60 Surface treatment: polisher, and 70 Requirement Specific. 001. The right area shows the 'Select drawing:' dropdown (1) with two options: '1 - 20000000425_D11_001_ABDECKUNG_04_ACTIVE.TIF' and '2 - 20000000425_D11_001_MDS_04_ACTIVE.TIF'. A red arrow points from the number '1' in a circle to the 'Select drawing:' dropdown, with the text 'page selection' next to it. The interface also shows a list of characteristics, a table of material variants, and a table of drawing changes.

Material:	Rev.:	Weight:	Description/Basis data-text:
0.072-00	AA	3 G	COVER
0.074-00	AA	9,5 G	HOUSING GR
0.075-00	AA	3 G	COVER
0.075-01	AA	3 G	COVER

Component	Pos.:	lct.:	Description / Basis data text	Variant
0.071-00	0010	L	HOUSING	X
0.072-00	0020	L	COVER	X

Change No.	Part-Version:	Description:
0133	001-01	
0133	001-03	
0133	001-04	