

# Surface Quality Requirements

Document  
Quality Management  
Belassi GmbH



## ***Surface Quality Requirements***



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**Release:** C. Hintersteining  
**Date:** 10.11.2020

DQ001\_V04\_SURFACE QUALITY REQUIREMENTS\_EN.DOCX

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## 1 Purpose / Objective

### 1.1 Purpose

This quality standard specifies the surface quality requirements for manufacture style and design related components.

### 1.2 Objective

To establish acceptance levels for surface finish requirements on components and to establish the acceptance levels which shall be used to classify all design relevant surfaces.

## 2 Scope

Suppliers of BELASSI GmbH.

Suppliers which manufacture; supplied, self-produced or provided style and design related parts.

The fulfilment of the surface quality requirements is the pre-condition for the production release of the component.

## 3 Further Applicable Documents

Document	Title of the Document
DQ002	Quality Guideline_EN
DQ003	Test Instruction_EN

## 4 Gender Information

Due to better legibility we are going to abstain in this document from gender specific language. Of course, everything in this document applies on men and women the same way and is meant this way.

## 5 Further Agreements

Every supplier owned tolerance sample catalogue need to be released written from Belassi GmbH.

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## 6 Change History

Version	Date	Page	Type of Change
V4	01.06.2020	4-9	Zones and Requirements updated

## 7 Distribution

This document will be in the RFQ Phase distributed to the suppliers.  
Responsible for the distribution is the Purchasing and Quality department.

## 8 Attachment

Nr.	Title of the Document
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## 9 Evaluation, Classification and Rating Method

### 9.1 Evaluation & Conditions

Visual evaluation:

Viewing distance:  $\geq 0.5$  meters

Light conditions: Daylight (sunny conditions)

Evaluation time: approx. 30 seconds on an area of 1m<sup>2</sup>

### 9.2 Surface classification

The surface of the components is divided into 5 complaint zones: A, B, C, D, E

At the applicable purchased part, the R&D department defines different zones:

- **Zone A (Red)**: Permanent visible highest priority area.
- **Zone B (Blue)**: Permanent visible areas where some special only from the special angle detectable failures are acc. the Tolerance sample catalogue allowed. 2<sup>nd</sup> priority surfaces.
- **Zone C (Orange)**: Permanent visible areas, which are completely or partially shadowed. 3<sup>rd</sup> priority surfaces.
- **Zone D (Yellow)**: Areas that are not visible to the end customer in operation.
- **Zone E (Grey)**: Areas that are not visible to the end customer or Trader/Dealer.

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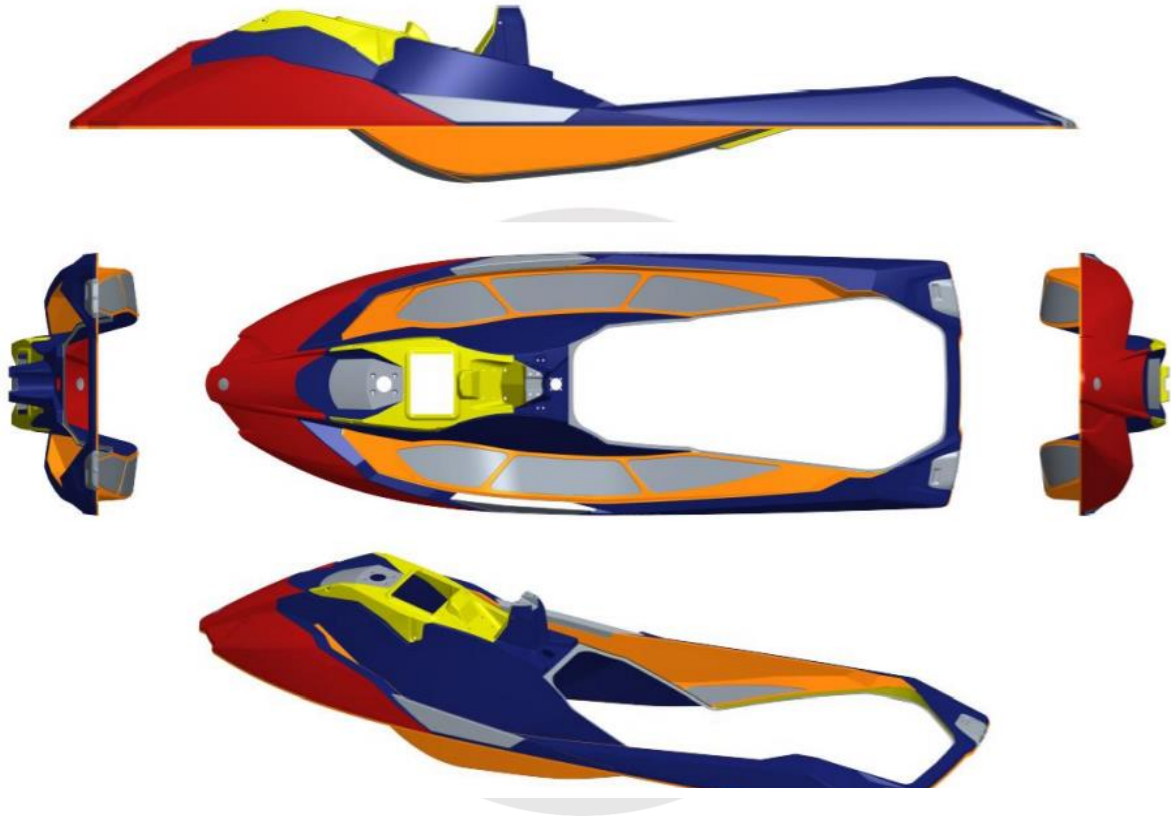
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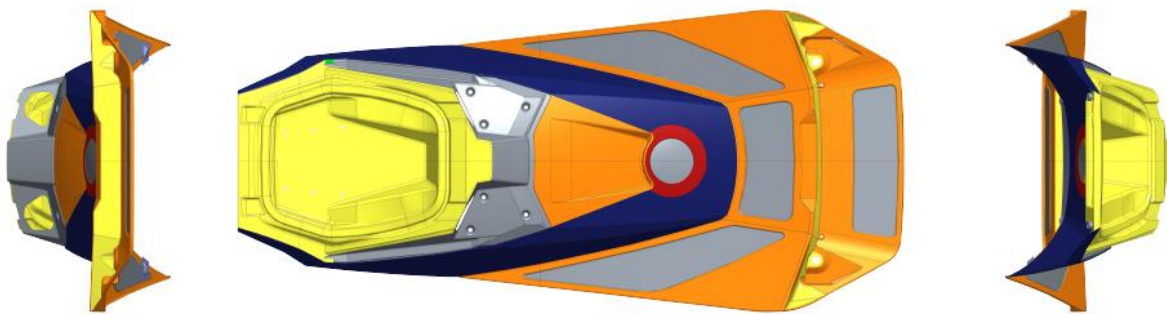
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Hull:

Gel Coat Version: Acc. Internal Requirements

Painted Version: Whole Surface is Zone C => Clear cote need to be free of any defects.

## 9.3 Rating Table

### Rating Table Extension

Error types	Description	Zone A	Zone B	Zone C	Zone D	Zone E
Superficial wear after painting	Scratches on the painted surface	Unacceptable	max 1mm Length	max 10mm Length	> 10mm Length > Not more than 3 Pcs > Minimum distance 500mm	Accepted
			Not more than 1 Pcs	Not more than 3 Pcs	> Scratches should not reach into the underlying layer	
Matte spots	Light polish shadows on the surface	Unacceptable	> 1mm Width	> 1mm Width	Acceptable	Accepted
			> 1mm Length	> 2mm Length	Acceptable	
			> Not more than 1 Pcs	> Not more than 2 Pcs	Acceptable	
			> Minimum distance 200mm	> Minimum distance 200mm	Acceptable	
			May only be visible through mirroring	Acceptable		
Chips / Notch	Chips on the surface	Unacceptable	Unacceptable	Unacceptable	Acceptable	Accepted

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Error types	Description	Zone A	Zone B	Zone C	Zone D	Zone E
Stove	Bubbles on the surface	Unacceptable	Unacceptable	Unacceptable	Acceptable	Accepted
Orange peel	Wavy Appearance of the paint or structure	Unacceptable	Unacceptable	Unacceptable	Acceptable	Accepted
Skim coat	Not covering	Unacceptable	Unacceptable	Unacceptable	Unacceptable	Unacceptable
Dust inclusions	Dust particles trapped in the surface	Unacceptable	> No nests	> No nests	Acceptable	Accepted
			> Not more than 1 Pc	> Not more than 2Pcs		
			> Same colour	> Same colour		
			> Max. 0,5 mm diameter	> Max. 1 mm diameter		
Crater / pores / holes / pinholes	Small round depressions small bubbles on the surface	Unacceptable	> Max. 0,5mm diameter	> Max. 0,5mm diameter	Acceptable	Accepted
			> Not more than 1 Pc Minimum distance 300 mm	> Not more than 5Pcs > Minimum distance 300 mm		
Contamination	Greases, oils, other chemicals	Unacceptable	Unacceptable	Unacceptable	Acceptable	Acceptable
Runners / Drops	Collection of paint	Unacceptable	Unacceptable	Unacceptable	Acceptable	Acceptable
Deformation and damage	Slight sink marks, dints, scratches, etc ...	Unacceptable	Unacceptable	Unacceptable	Acceptable (so far the function of the part is ensured)	Acceptable (so far the function of the part is ensured)
Colour not matching	Deviating or not homogeneous colour	Unacceptable	Unacceptable	Unacceptable	Acceptable	Acceptable
Finger-prints	Fingerprint on the surface	Unacceptable	Unacceptable	Unacceptable	Acceptable	Acceptable
Burr on the surface	Burr may not be larger than 0.4 mm	Unacceptable	Unacceptable	Unacceptable	Unacceptable	Acceptable

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- CLUSTER of defects is not allowed on A and B and C surfaces.  
"Cluster" is defined as 3 or more defects within 25 mm or less separation between defects.
- Various failure mode (different error types) are not allowed on A and B and C surfaces.

The Flaws which are allowed and accepted are those which have been recorded and agreed on with the customer as well as confirmed by the Belassi GmbH during the PPAP Phase.

In this case the supplier is committed to archive the released sample part and submit a detailed photo documentation including the measuring of the surface error type as well as an extended PPAP documentation.

The accepted flaws are considered as a "worst case". Any enlarge of the accepted failure is not allowed and leads to complaints.

In every unclear situation, new esthetical failure mode (which is not included in the above list), the supplier is committed to contact the customer in order to evaluate the failure.

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