

Information about the content

Responsible area:	0100-610	Prepared/Updated:	See SAP-DMS
		Released:	See SAP-DMS
Valid from:	23-Apr-2020	Controlled:	PSE-020

This document is subject to electronic version control – confirm revision status before using.

This specification covers WK65 Tungsten wire.

1 Dimensions and tolerances

Diameter [μm]	Ø-Tolerance [μm]	Max. value out of roundness	Split quality
1310	± 20	Within the Ø-tolerance	Automotive-Quality
1310	± 20	Within the Ø-tolerance	Standard-Quality
1310	± 20	Within the Ø-tolerance	C-Quality

2 Physical properties, microstructure and surface condition

Split 100% eddy current tested, split level:

Automotive quality:
5% depth on radius – max. 150ppm,
15% on radius – 0ppm, 30% on radius – 0ppm

Standard Quality: Split <2%

C-Quality: Split ≥ 2%

Defects: Wire must be free of pores, holes and harmful segregations

Microstructure: Homogenous microstructure through the cross section of the wire

2.1 Surface condition

Surface condition: Black (surface with graphite layer)

Visual properties: Wire surface must be smooth without any cracks, twists, kinks, pits, projecting fibers, free of slivers.

Oxide Skin Oxide skin must not be interrupted. Light stains as a result of local flaking are not allowed.

3 Chemical composition

Main and minor components	Plansee		EU-Directive
	Min. content [%]		RoHS ^{a)}
	Typical	Guaranteed	
W	-	99.95 % ^{b)}	-
Al	11 µg/g	< 20 µg/g	
K	60 - 70 µg/g	> 60 µg/g	
Si	2 µg/g	< 10 µg/g	
Impurities	Max. values [µg/g] Guaranteed		Max. values [µg/g]
Fe	15		-
Mo	30		-
Co	10		-
Sn	5		-
Ni	5		-
Ca	2		-
Mg	2		-
Mn	2		-
Bi	2		-
C	10		-
O ^{**)}	30		-
Cr	5		-
Na ^{*)}	5		-
P	1		-
Cu	5		-
Cd	2		100
Hg ^{c)}	1		1000
Pb	2		1000
Cr (VI)			1000
Organic impurities (e.g. PBB, PBDE, PFOS, PFOA)	- ^{**)}		1000

^{a)} EU-directives 2015/863/EU, 2011/65/EU and 2000/53/EC.

^{b)} Metallic purity without W

^{c)} Initial value

^{**)} The presence of Cr (VI) and organic impurities can definitely be excluded because of the production process (multiple heat treatments at temperatures above 1000 °C in H₂-atmosphere).

The chemical composition is checked by means of random sampling. The sampling inspection plan, analysis and evaluation methods are determined in the internal instruction PSE-020-WI-003. The application of the measured values for the chemical analysis is defined in PSE-680-WI-001.

Remarks: The specified physical and chemical characteristics are disclosed not regarding measurement accuracy.

4 Packaging, labelling, storage and certification

4.1 Packaging, labelling and storage

Standard individual packing:

Dimension of standard reels

Spool / reel:	Self-coiled with 580 ± 10 mm inner diameter, with both the ends clearly distinguished.
Packing:	Each coil must be separated with a cardboard in between.
Uninterrupted individual weight:	Each coil with a minimum weight of 3kg

Wire of different powder lots must not be welded to form a new serial

Each package will be provided with a label with the following information:

Producer's name:	Plansee
Plansee order number:	
Lot number:	
Material number:	
Material:	WK65
Dimension:	Wire; diameter 1,31 mm
Surface:	
Quantity:	Total quantity in m or kg
Date:	

The material must be kept in a dry place and protected from mechanical damage. It is best to keep the material in the original packing until used.

Special packing: (extra costs will be invoiced)

Special packing should be used if the material is stored under unusual conditions (aggressive atmosphere (sea air, ...))

4.2 Inspection documents

Following inspection documents will be supplied upon customer request according to EN 10 204:

Test report 2.2

Plansee confirms with this test report that the delivered product meets the specification and gives details of the material properties according to ongoing production surveillance, not directly related to the particular production batch.

Inspection certificate 3.1 (extra costs will be invoiced)

An inspection officer from Plansee confirms with this inspection certificate that the delivered product meets the specification and gives test results related to the particular production batch.

5 Order instructions

Please quote following information when ordering:

- Product description
- Quality (the number of this specification must be mentioned)
- Material number
- Quantity in **m** or **kg**
- Required certificate and content in case of a 3.1 inspection certificate
- *For special packing:* Specification of packaging

For further information on our delivery possibilities, please look into our <http://www.plansee.com>

6 Referenced standards

The standards applied for the test methods are listed in the Plansee standard InfoBase and are made available upon request.

Changes to last version

Replacement for	Changes to last version
-	■ New issued