

Bodysteel and Silver Co. Ltd.
63 Moo 5, Soi Wat Bang-Co Yaek Rong-Foam
Kanchanaphisek Road, Bang Ma-Nang, Bang Yai
T-11140 Nonthaburi THAILAND

Woerth, 07.02.2022

Technical Product: Kgen
Our Lot number: P 671-21
Delivery quantity: 191,77 kg

The above mentioned lot number is in accordance with the regulations.

Element - E	Element - D	Symbol	Sollwert %	Zul. Toleranz		Istwert % Charge P 671-21
				min	max	
Cobalt	Kobalt	Co	61,65	59	63	61,40
Chrome	Chrom	Cr	27,75	27	29	27,90
Manganese	Mangan	Mn	0,25	0,15	0,35	0,29
Silicon	Silicium	Si	1,61	1,5	1,8	1,70
Tungsten	Wolfram	W	8,45	8	9	8,30

No other elements > 0,1 %

The above mentioned lot number is in accordance with the regulations

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Woerth, 07.02.2022

Technical Product: Kgen
Our Lot number: P 669-21
Delivery quantity: 8,23 kg

The above mentioned lot number is in accordance with the regulations.

Element - E	Element - D	Symbol	Sollwert %	Zul. Toleranz		Istwert % Charge P 669-21
				min	max	
Cobalt	Kobalt	Co	61,65	59	63	61,60
Chrome	Chrom	Cr	27,75	27	29	27,80
Manganese	Mangan	Mn	0,25	0,15	0,35	0,30
Silicon	Silicium	Si	1,61	1,5	1,8	1,60
Tungsten	Wolfram	W	8,45	8	9	8,40

No other elements > 0,1 %

The above mentioned lot number is in accordance with the regulations

CERTIFICATION OF COMPLIANCE

Certification: 1385484-1	Manufactured Date: 07/22/2021	Batch: 18299696	
		Sales Order: 1137181	
		Purchase Order: 80005703	
Quantity Shipped: 6.713 kg (55 ea)			
Finish: Centerless Ground & Polished			22 July, 2021 Date
Alloy: FWM® T537 Alloy 1		Condition: Warm Worked	
Size: 2.5 mm x 3000 mm			
Specification: ASTM F1537-20, ISO 5832-12:2019			
The material in this shipment has been certified to comply to the above specification			

Rockwell Hardness C (ea) 44.00

TESTING PROPERTIES

Crosshead Speed (mm/min)	0.3556	Secondary Crosshead Speed (mm/min)	6.3500
Gauge Length (mm)	50.8000		

Batch Description: Eddy Current Tested

Eddy Current Test	Pass	Straightness	Pass
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CERTIFICATION NOTES

Material is certified in accordance with DIN EN.10204 certificate type 3.1

Concession to over ship approved.

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RAW MATERIAL CHARACTERISTICS

Heat Number: K0F30			
Batch Description: Coil			
Balance	Cobalt	Carbon (C) (%)	0.0340
Chromium (Cr) (%)	27.1900	Iron (Fe) (%)	0.4000
Manganese (Mn) (%)	0.6500	Molybdenum (Mo) (%)	5.7500
Nickel (Ni) (%)	0.3200	Nitrogen (N) (%)	0.1660
Silicon (Si) (%)	0.3700	Alumina Heavy (ea)	0.0
Alumina Thin (ea)	0.0	Globular Oxide Heavy (ea)	0.0
Globular Oxide Thin (ea)	0.0	Silicate Heavy (ea)	0.0
Silicate Thin (ea)	0.0	Sulfide Heavy (ea)	0.0
Sulfide Thin (ea)	0.0	Grain Size (ea)	7.0
RM Country of Origin	USA	RM DFARS Compliant	Compliant
Ultrasonic Tested	Yes		

FINISHED GOOD MATERIAL CHARACTERISTICS

Size Tolerance: Diameter +0.000 / -0.025 mm		Discrete Part Length +50.8 / -50.8 mm	
Batch Description: Centerless Ground and Polish			
Diameter (mm)	2.483	Discrete Part Length (mm)	3,000.0
Breakload (kg)	739	Tensile Strength (mpa)	1,496
Elongation (%)	38	4D Elongation (%)	38
Yield Load (kg)	527	Yield Strength (mpa)	1,068
Grain Size (ea)	8.0	MetLab Report Number	21-06-75136 21-06-75266
Reduction of Area (%)	25.8	Straightness	Pass

Made in the USA from domestic and foreign materials.

FDA registered and ISO 13485 certified ISO 9001 and AS 9100 certified