313050

GETRAG

Part Submission Warrant

Part Name: Speed Gear Rev — Customer Part Number: 250.1.3648.08

Shown on Drawing No.: 250.1.3648.08 — Organization Part #:

Engineering Change Level: a 36088 - C009610_MIP_1 — Dated: 15-set-15

Additional Engineering Changes: — Dated:

Safety and/or Government Regulation: ☑ Yes ☐ No — Purchase Order No.: — Weight (kg): 0.8070

Checking Aid No.: — Checking Aid Engineering Change Level: — Dated:

ORGANIZATION MANUFACTURING INFORMATION

GETRAG MODUGNO

Organization Name & Supplier/Vendor Code

VIA DEI CICLAMINI N°4

Street Address

City	Region	Postal Code	Country
MODUGNO	BARI	70026	ITALY

CUSTOMER SUBMITTAL INFORMATION

Customer Name/Division

Buyer/Buyer Code

TYP 250

Application

MATERIALS REPORTING

Has customer-required Substances of Concern information been reported? ☑ Yes ☐ No ☐ n/a

Submitted by IMDS or other customer format:

Are polymeric parts identified with appropriate ISO marking codes? ☐ Yes ☐ No ☑ n/a

REASON FOR SUBMISSION (Check at least one)

- ☑ Initial Submission
- ☐ Engineering Change(s)
- ☐ Tooling: Transfer, Replacement, Refurbishment, or additional
- ☐ Correction of Discrepancy
- ☐ Tooling Inactive > than 1 year
- ☐ Change to Optional Construction or Material
- ☐ Supplier or Material Source Change
- ☐ Change in Part Processing
- ☐ Parts Produced at Additional Location
- ☐ Other - please specify below

REQUESTED SUBMISSION LEVEL (Check one)

- ☐ Level 1 - Warrant only (and for designated appearance items, an Appearance Approval Report) submitted to customer.
- ☐ Level 2 - Warrant with product samples and limited supporting data submitted to customer.
- ☑ Level 3 - Warrant with product samples and complete supporting data submitted to customer.
- ☐ Level 4 - Warrant and other requirements as defined by customer.
- ☐ Level 5 - Warrant with product samples and complete supporting data reviewed at organization's manufacturing location.

SUBMISSION RESULTS

The results for ☑ dimensional measurements ☑ material and functional tests ☐ appearance criteria ☑ statistical process package

These results meet all drawing and specification requirements: ☑ Yes ☐ NO (If "NO" - Explanation Required)

Mold / Cavity / Production Process

DECLARATION

I hereby affirm that the samples represented by this warrant are representative of our parts which were made by a process that meets all Production Part Approval Process Manual 4th Edition Requirements. I further affirm that these samples were produced at the production rate of 1860 / 24 hours. I also certify that documented evidence of such compliance is on file and available for review. I have noted any deviations from this declaration below.

EXPLANATION / COMMENTS: **First Submission PPAP for code 250 1 3648 08 (PPAP only for differences respect to 250 1 3648 05)**

New kk: 055.8.5463.00 (already in place on SG1)

Is each Customer Tool properly tagged and numbered? ☐ Yes ☐ No ☑ n/a

Organization Authorized Signature — Date: 05/04/2017

Print Name: Camarda Ettore — Phone No.: tel 390805858220 — Fax No.:

Title: Area 1 Manager — E-mail: ettore.camarda@getrag.com

FOR CUSTOMER USE ONLY (IF APPLICABLE)

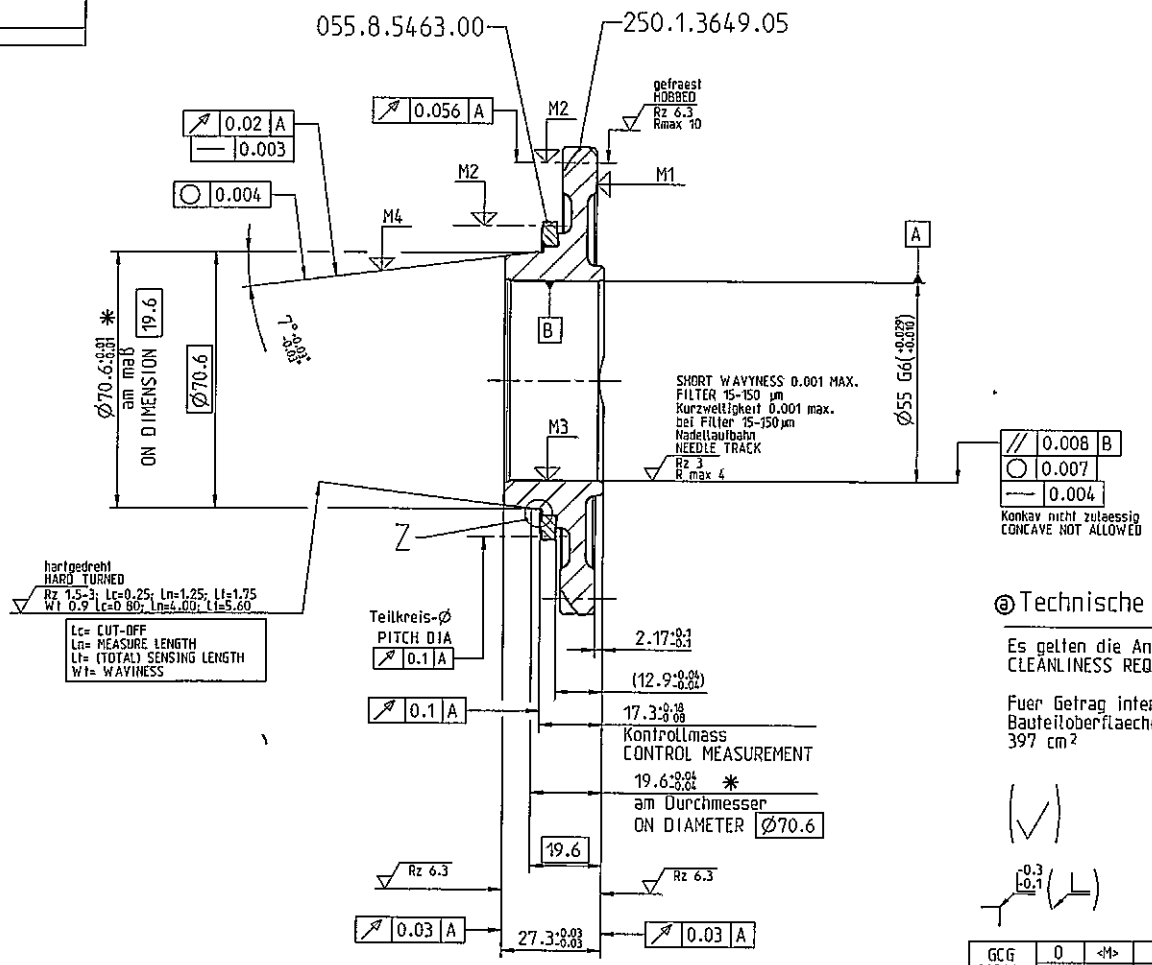
Part Warrant Disposition: ☑ Approved ☐ Rejected ☐ Other

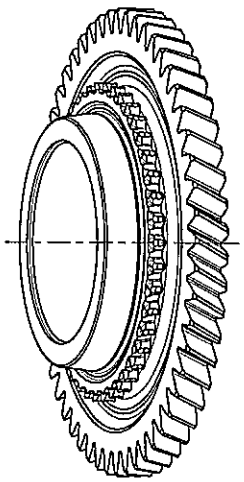
Customer Signature — Date: 05-04.17

Print Name — Customer Tracking Number (optional)

Design Release:	2015-10-09	Agapi.Raidt
Function Release:	2015-10-13	Steffen.Horlacher
Geardata Release:	not required	
Material Release:	not required	
SAP Release:	2015-10-28	Hartmut.Kobald
Document Status:	approved	

[ueer freigabeinformation freihalten] KEEP FREE FOR RELEASE INFORMATION!





ⓐ Technische Sauberkeit / TECHNICAL CLEANLINESS:

Es gelten die Anforderungen nach GN 4340-1
CLEANLINESS REQUIREMENTS OF THE GN 4340-1 HAVE TO BE ABIDED

Fuer Getrag internen Gebrauch / FOR GETRAG INTERNAL USE
Bauteiloberflaeche fuer Pruefung / SURFACE TO PROVE:
397 cm²

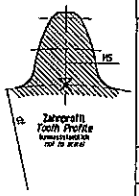
Naehere Angaben zur Verzahnung
siehe Verzahnungsblatt
250.1.3649.05
FURTHER GEAR DATA SEE
DATA SHEET NUMBER
250.1.3649.05

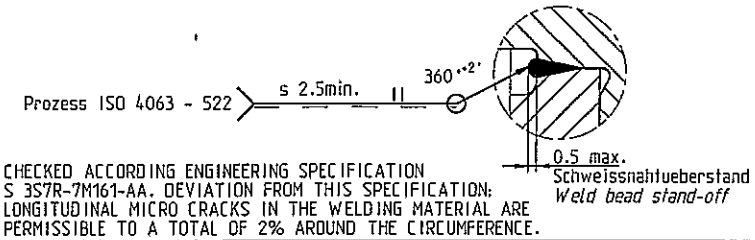
Z
unmassstaeblich
not to scale

* wahlweise Messung
ALTERNATIVE MEASUREMENT

einsatzgehaertet und angelassen
M1 (Oberflaechenhaerte) : 80.5+2.5 HRA
M2 (Zahnflanke) : CHD (Eht) 550=0.5+0.4
M3 (Bohrung) : CHD (Eht) 550= 0.3min.
M4 (Konus) : CHD (Eht) 550= 0.4+0.4
M5 (Kernhaerte) : min. 300 HV10

CASE HARDENED AND TEMPERED
M1 (CASE HARDNESS) : 80.5+2.5 HRA
M2 (TOOTH FLANK) : CHD (Eht) 550=0.5+0.4
M3 (BORE) : CHD (Eht) 550= 0.3min.
M4 (CONE) : CHD (Eht) 550= 0.4+0.4
M5 (INSIDE BASE OF TOOTH) : min. 300 HV10





CHECKED ACCORDING ENGINEERING SPECIFICATION
S 3S7R-7M161-AA. DEVIATION FROM THIS SPECIFICATION:
LONGITUDINAL MICRO CRACKS IN THE WELDING MATERIAL ARE
PERMISSIBLE TO A TOTAL OF 2% AROUND THE CIRCUMFERENCE.

GCG 803001	0	<M>				
	0	<C>				
GN 3010	0	<M>				
	0	<C>				
	0	<A>				
CAD Pref Engineer	a	1x	36088	Technische Sauberkeit/TECHNICAL CLEANLINESS aktualisiert/UPDATED		20150915
	---	---	C000357_CP_2	Spezifikationsreifegrad 3 erreicht / MATURITY LEVEL OF SPECIFICATION 3 APPROVED		20141112

Masstab / SCALE: M: 1:1 (--)

Buchst. CHANGE INDEX | Anzahl NUMBER | Aend.-Nr. CHANGE ORDER NO. | Aenderung MODIFICATION --nur mittels CAD zulaessig- FMEA ueberpruefen-- --ONLY ALLOWED BY CAD; CHECK FMEA-- | Datum DATE

Allgemeintoleranzen fuer Laengenmasse, Form und Lage ISO 2768 - mH gebrochene Kanten, Radien und Winkelmasse ISO 2768 - v
GENERAL TOLERANCES FOR LINEAR DIMENSIONS, FORM AND POSITION ISO 2768 - mH, CHAMFERS, RADII AND ANGULAR DIMENSIONS ISO 2768 - v

Informationen auf dieser Zeichnung sind ohne Angaben zu Verwendung und Freigabe unverbindlich.
INFORMATION ON THIS DRAWING PROVIDED WITHOUT OBLIGATION IF USAGE AND RELEASE ARE NOT SHOWN.

Auswertung der Durchmessermessung erfolgt nach der Gauss-Methode (arithmetischer Mittelwert)
EVALUATION OF THE DIAMETER MEASUREMENT IS CARRIED OUT ACCORDING TO THE GAUSS METHOD (ARITHMETICAL MEAN VALUE)

Form- und Lagetolerierung FORM AND POSITION TOLERANCES EN ISO 1101	Tolerierung TOLERANCING ISO 8015	Oberflaechenangaben SURFACE TEXTURE GN 4005	Werkstueckkanten BREAK EDGES ISO 13715

Werkstoff / MATERIAL: -
Halbzeug SEMI-FINISHED: -
oelbenetzte Oberflaeche OIL WETTED SURFACE: 0 mm²
Gesamtoberflaeche SURFACE AREA: 0 mm²
Masse MASS: 0.807 kg

GETRAG
Getriebe- und Zahnradfabrik Hermann Hagenmeyer GmbH & Cie KG

Schutzvermerk nach ISO 16016 beachten
PROTECTION PER ISO 16016

Benennung / ITEM NAME: SPEED GEAR REV. CPL.
Schaltrad Rw.-Gg. vst.

Artikel-Nr./ ITEM NO.: 2501364808
CAD-Modell: 2501364808

Blatt/SHEET 1 von/OF 1 | Reifegrad MATURITY: 3 | Format SIZE: A2

Ersatz fuer SUBSTITUTE FOR: -

INTRALINK DATA	CHECKED IN BY	CHECKED IN ON dd.mm.yyyy hh:mm:ss	VERSION
Zchng./ DRW:	Agapi.Raidt	09.10.2015 09:35:51	4
MODEL:	Agapi.Raidt	15.09.2015 17:51:42	14

HOERBIGER

PART SUBMISSION WARRANT

Part name Kupplungskoerper	Part Number 0558546300.		
Safety and/or Government Regulation ☐ Yes ☒ No	Engineering Drawing Change Level "b"	Dated	25.10.2016
Additional Engineering Changes C000611_MIP_1		Dated	____
Shown on Drawing No. 0558546300	Purchase Order No. 550003206501	Weight (kg)	0,0436kg
Checking Aid No. ____	Engineering Change Level F	Dated	10.03.16

Supplier Manufacturing Information

HOERBIGER Synchron Technik GmbH
Supplier Name & Supplier Code

Lembacher Str. 2
Street Address

Oberstenfeld Germany 71720
City State Zip

Submission Information

☐ Dimensional ☐ Materials / Functional ☐ Appearance

GETRAG GmbH & Cie. KG
Customer Name/Division

Andrea Harrack
Buyer/Buyer Code

Project DCT 250
Application

Materials reporting

Has customer-required Substances of Concern information been reported? ☒ Yes ☐ No ☐ n/a (If „No" - Explanation Required)

Submitted by IMDS or other customer format: IMDS-No. 281134354

Are polymeric parts identified with appropriate ISO marking codes? ☐ Yes ☐ No ☒ n/a

Reason for submission

☐ Initial submission
☒ Engineering Change(s)
☐ Tooling: Tranfer, Replacement, Refurbishment, or additional
☐ Correction of Discrepancy
☐ Tooling Inactive > than 1 year
☐ Change to Optional Construction or Material
☐ Sub-Supplier or Material Source Change
☐ Change in Part Processing
☐ Parts Produced at Additional Location
☐ Other – please specify:

Requested submission level (Check one)

☐ Level 1 - Warrant only (and for designated appearance items, an Appearance Approval Report) submitted to customer
☐ Level 2 - Warrant with product samples and limited supporting data submitted to customer
☒ Level 3 – Warrant with product samples and complete supporting data submitted to customer
☐ Level 4 – Warrant and other requirements as defined by customer
☐ Level 5 – Warrant with product samples and complete supporting data reviewed at supplier's manufacturing location

Submission results

The results for ☐ dimensional measurements ☒ material and functional tests ☐ appearance criteria ☐ statistical process package

These results meet all drawing and specification requirements ☒ Yes ☐ No (If „No" - Explanation Required)

Mold / Cavity / Production Process ____

Declaration

I heregy affirm that the samples represented by this warrant are representative of our parts, have been made to the applicable Production Part Approval Process Manual 3rd Edition Requirements. I further warrant these samples were produced at the production rate of 500 pieces. I have noted any deviations from this declaration below.

MAGNA GETRAG

EXPLANATION / COMMENTS: Change from index: "a" to index: "b" is the addition of the meaning of the Hoerbiger symbols

Is each Customer Tool properly tagged and numbered? ☐ Yes ☐ No ☒ n/a

GETRAG Getriebe- und Zahnradfabrik Hermann Hagenmeyer GmbH & Cie KG
Hermann-Hagenmeyer-Straße
74199 Untergruppenbach

Print Name	Title	Phone No.	Fax No.
Thomas Lorenz	Quality Manager PSO-PPS-3	+49 7062 266 2284	+49 7062 266 2198

Supplier Authorized Signature: Date 25.10.2016

For customer use only (if applicable)

Part Warrant Disposition: ☒ approved ☐ rejected ☐ other ☐ Part Funtional Approval: ☐ approved ☐ waived

DEQ MAGNA / GETRAG	H. LIPS	15/02/2017
Customer Name	Customer Signature	Date

SAP-17-00120

GETRAG Production Part Approval

DIMENSIONAL TEST RESULTS

Organization:	GETRAG	Part Number:	250.1.3648.08
Supplier/Vendor Code:	GETRAG Modugno	Part Name:	SG Rv
INSPECTION FACILITY: NA		Design Record Change Level:	15/09/2015
		Engineering Change Documents:	a 36088 - C009610_MIP_1

Organization Measurement Results (Data)

Item	Dimension/Specification	Specification / Limits		Test Date	Qty. Tested	1	2	3	4	5	controllo distruttivo	Ok	Not Ok
1	Dente 1				5	--	--	--	--	--		--	
1.1	Offset di mezzeria	0.075	-0.075		5	0.003	0.006	0.003	0.002	0.006		ok	
1.2	Larghezza	0.150	0.000		5	0.022	0.022	0.063	0.005	0.023		ok	
1.3	Angolo sx	61.000	59.000		5	59.073	59.204	59.014	59.107	59.212		ok	
1.4	Angolo dx	61.000	59.000		5	59.840	59.708	59.824	59.689	59.699		ok	
2	Dente 15				5	--	--	--	--	--		--	
2.1	Offset di mezzeria	0.075	-0.075		5	0.013	0.013	0.002	-0.005	0.013		ok	
2.2	Larghezza	0.150	0.000		5	0.046	0.046	0.022	0.064	0.046		ok	
2.3	Angolo sx	61.000	59.000		5	59.096	59.108	59.187	59.016	59.110		ok	
2.4	Angolo dx	61.000	59.000		5	59.716	59.694	59.733	59.810	59.693		ok	
3	Dente 29				5	--	--	--	--	--		--	
3.1	Offset di mezzeria	0.075	-0.075		5	0.011	0.006	0.011	-0.003	0.006		ok	
3.2	Larghezza	0.150	0.000		5	0.063	0.063	0.046	0.022	0.063		ok	
3.3	Angolo sx	61.000	59.000		5	59.167	59.038	59.151	59.220	59.029		ok	
3.4	Angolo dx	61.000	59.000		5	59.696	59.838	59.663	59.697	59.816		ok	
4	Fr kk	0.100	0.000		5	0.041	0.074	0.028	0.061	0.048		ok	
5	Oscillazione ass. KK	0.100	0.000		5	0.040	0.069	0.079	0.027	0.085		ok	
6	Altezza KK	17.48	17.22		5	17.434	17.337	17.344	17.335	17.436		ok	

SIGNATURE	TITLE	DATE
D.Vicenti	ME	04/04/2017

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Disegno Nr.: 055.8.5463.00 FINITO Cliente/Macch. Nr.: P26
Controllore: TURNO b Denominazione:
Commessa/Serie Nr.: Pezzo n.01

Osservazione:

Funzione	Nome	SY	Q.ta eff. mm/GRAD	Q.ta nom. mm/GRAD	Tol sup. mm/GRAD	Tol inf. mm/GRAD	Scost mm/GRAD	Valut. mm/GRAD
	Dente 1							
	Vertice:							
DISTANZA	Offset d.mezz.		0.00255	0.00000	0.07500	-0.07500	0.00255	
LUNGHEZ.	Larghezza		0.02200	0.07500	0.07500	-0.07500	-0.05300	--
DISTANZA	Setback		0.38953	0.40000	0.10000	-0.10000	-0.01047	
	Cuspide:							
ANGOLO	Angolo	si	59.07274	60.00000	1.00000	-1.00000	-0.92726	---
ANGOLO	Angolo	de	59.83976	60.00000	1.00000	-1.00000	-0.16024	
	Dente 15							
	Vertice:							
DISTANZA	Offset d.mezz.		0.01331	0.00000	0.07500	-0.07500	0.01331	
LUNGHEZ.	Larghezza		0.04592	0.07500	0.07500	-0.07500	-0.02908	-
DISTANZA	Setback		0.39218	0.40000	0.10000	-0.10000	-0.00782	
	Cuspide:							
ANGOLO	Angolo	si	59.09560	60.00000	1.00000	-1.00000	-0.90440	---
ANGOLO	Angolo	de	59.71582	60.00000	1.00000	-1.00000	-0.28418	-
	Dente 29							
	Vertice:							
DISTANZA	Offset d.mezz.		0.01073	0.00000	0.07500	-0.07500	0.01073	
LUNGHEZ.	Larghezza		0.06261	0.07500	0.07500	-0.07500	-0.01239	
DISTANZA	Setback		0.41684	0.40000	0.10000	-0.10000	0.01684	
	Cuspide:							
ANGOLO	Angolo	si	59.16656	60.00000	1.00000	-1.00000	-0.83344	---
ANGOLO	Angolo	de	59.69613	60.00000	1.00000	-1.00000	-0.30387	-

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Disegno Nr.: 055.8.5463.00 FINITO Cliente/Macch. Nr.: P26
Controllore: TURNO b Denominazione:
Commessa/Serie Nr.: Pezzo n.02

Osservazione:

Funzione	Nome	SY	Q.ta eff. mm/GRAD	Q.ta nom. mm/GRAD	Tol sup. mm/GRAD	Tol inf. mm/GRAD	Scost mm/GRAD	Valut. mm/GRAD
	Dente 1							
	Vertice:							
DISTANZA	Offset d.mezz.		0.00628	0.00000	0.07500	-0.07500	0.00628	
LUNGHEZ.	Larghezza		0.02193	0.07500	0.07500	-0.07500	-0.05307	--
DISTANZA	Setback		0.38968	0.40000	0.10000	-0.10000	-0.01032	
	Cuspide:							
ANGOLO	Angolo	si	59.20425	60.00000	1.00000	-1.00000	-0.79575	---
ANGOLO	Angolo	de	59.70779	60.00000	1.00000	-1.00000	-0.29221	-
	Dente 15							
	Vertice:							
DISTANZA	Offset d.mezz.		0.01273	0.00000	0.07500	-0.07500	0.01273	
LUNGHEZ.	Larghezza		0.04627	0.07500	0.07500	-0.07500	-0.02873	-
DISTANZA	Setback		0.39198	0.40000	0.10000	-0.10000	-0.00802	
	Cuspide:							
ANGOLO	Angolo	si	59.10776	60.00000	1.00000	-1.00000	-0.89224	---
ANGOLO	Angolo	de	59.69409	60.00000	1.00000	-1.00000	-0.30591	-
	Dente 29							
	Vertice:							
DISTANZA	Offset d.mezz.		0.00602	0.00000	0.07500	-0.07500	0.00602	
LUNGHEZ.	Larghezza		0.06304	0.07500	0.07500	-0.07500	-0.01196	
DISTANZA	Setback		0.41690	0.40000	0.10000	-0.10000	0.01690	
	Cuspide:							
ANGOLO	Angolo	si	59.03837	60.00000	1.00000	-1.00000	-0.96163	---
ANGOLO	Angolo	de	59.83832	60.00000	1.00000	-1.00000	-0.16168	

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Disegno Nr.: 055.8.5463.00 FINITO Cliente/Macch. Nr.: P26
Controllore: TURNO b Denominazione:
Commessa/Serie Nr.: Pezzo n.03

Osservazione:

Funzione	Nome	SY	Q.ta eff. mm/GRAD	Q.ta nom. mm/GRAD	Tol sup. mm/GRAD	Tol inf. mm/GRAD	Scost mm/GRAD	Valut. mm/GRAD
	Dente 1							
	Vertice:							
DISTANZA	Offset d.mezz.		0.00300	0.00000	0.07500	-0.07500	0.00300	+
LUNGHEZ.	Larghezza		0.06337	0.07500	0.07500	-0.07500	-0.01163	-
DISTANZA	Setback		0.41684	0.40000	0.10000	-0.10000	0.01684	+
	Cuspide:							
ANGOLO	Angolo	si	59.01372	60.00000	1.00000	-1.00000	-0.98628	----
ANGOLO	Angolo	de	59.82387	60.00000	1.00000	-1.00000	-0.17613	-
	Dente 15							
	Vertice:							
DISTANZA	Offset d.mezz.		0.00248	0.00000	0.07500	-0.07500	0.00248	+
LUNGHEZ.	Larghezza		0.02220	0.07500	0.07500	-0.07500	-0.05280	---
DISTANZA	Setback		0.38980	0.40000	0.10000	-0.10000	-0.01020	-
	Cuspide:							
ANGOLO	Angolo	si	59.18704	60,00000	1.00000	-1.00000	-0.81296	----
ANGOLO	Angolo	de	59.73335	60,00000	1.00000	-1.00000	-0.26665	--
	Dente 29							
	Vertice:							
DISTANZA	Offset d.mezz.		0.01087	0.00000	0.07500	-0.07500	0.01087	+
LUNGHEZ.	Larghezza		0.04647	0.07500	0.07500	-0.07500	-0.02853	--
DISTANZA	Setback		0.39227	0.40000	0.10000	-0.10000	-0.00773	-
	Cuspide:							
ANGOLO	Angolo	si	59.15127	60.00000	1.00000	-1.00000	-0.84873	----
ANGOLO	Angolo	de	59.66321	60.00000	1.00000	-1.00000	-0.33679	--

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Disegno Nr.: 055.8.5463.00 FINITO Cliente/Macch. Nr.: P26
Controllore: TURNO b Denominazione:
Commessa/Serie Nr.: Pezzo n.04

Osservazione:

Funzione	Nome	SY	Q.ta eff. mm/GRAD	Q.ta nom. mm/GRAD	Tol sup. mm/GRAD	Tol inf. mm/GRAD	Scost mm/GRAD	Valut. mm/GRAD
	Dente 1							
	Vertice:							
DISTANZA	Offset d.mezz.		0.00150	0.00000	0.07500	-0.07500	0.00150	+
LUNGHEZ.	Larghezza		0.04694	0.07500	0.07500	-0.07500	-0.02806	--
DISTANZA	Setback		0.39202	0.40000	0.10000	-0.10000	-0.00798	-
	Cuspide:							
ANGOLO	Angolo	si	59.10747	60.00000	1.00000	-1.00000	-0.89253	----
ANGOLO	Angolo	de	59.68890	60.00000	1.00000	-1.00000	-0.31110	--
	Dente 15							
	Vertice:							
DISTANZA	Offset d.mezz.		-0.00510	0.00000	0.07500	-0.07500	-0.00510	-
LUNGHEZ.	Larghezza		0.06414	0.07500	0.07500	-0.07500	-0.01086	-
DISTANZA	Setback		0.41680	0.40000	0.10000	-0.10000	0.01680	+
	Cuspide:							
ANGOLO	Angolo	si	59.01629	60.00000	1.00000	-1.00000	-0.98371	----
ANGOLO	Angolo	de	59.80982	60.00000	1.00000	-1.00000	-0.19018	-
	Dente 29							
	Vertice:							
DISTANZA	Offset d.mezz.		-0.00271	0.00000	0.07500	-0.07500	-0.00271	-
LUNGHEZ.	Larghezza		0.02208	0.07500	0.07500	-0.07500	-0.05292	---
DISTANZA	Setback		0.38972	0.40000	0.10000	-0.10000	-0.01028	-
	Cuspide:							
ANGOLO	Angolo	si	59.22005	60.00000	1.00000	-1.00000	-0.77995	----
ANGOLO	Angolo	de	59.69706	60.00000	1.00000	-1.00000	-0.30294	--

Documento archiviato in PDF. Archiviazione cartacea non necessaria

Disegno Nr.: 055.8.5463.00 FINITO Cliente/Macch. Nr.: P26
Controllore: TURNO b Denominazione:
Commessa/Serie Nr.: Pezzo n.05

Osservazione:

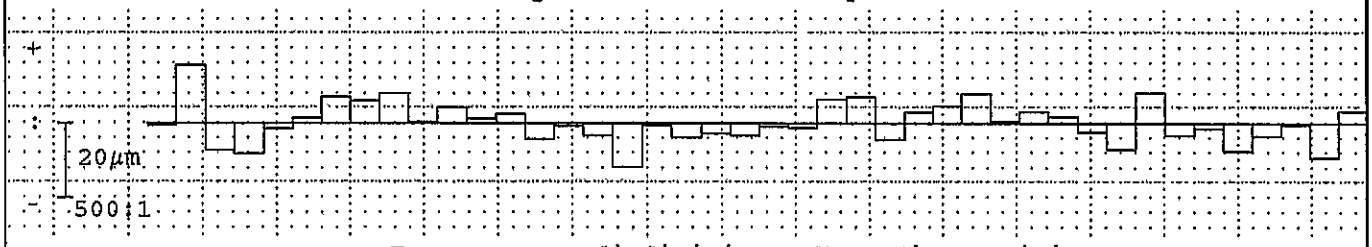
Funzione	Nome	SY	Q.ta eff. mm/GRAD	Q.ta nom. mm/GRAD	Tol sup. mm/GRAD	Tol inf. mm/GRAD	Scost mm/GRAD	Valut. mm/GRAD
	Dente 1							
	Vertice:							
DISTANZA	Offset d.mezz.		0.00621	0.00000	0.07500	-0.07500	0.00621	+
LUNGHEZ.	Larghezza		0.02251	0.07500	0.07500	-0.07500	-0.05249	---
DISTANZA	Setback		0.38968	0.40000	0.10000	-0.10000	-0.01032	-
	Cuspide:							
ANGOLO	Angolo	si	59.21168	60.00000	1.00000	-1.00000	-0.78832	----
ANGOLO	Angolo	de	59.69909	60.00000	1.00000	-1.00000	-0.30091	--
	Dente 15							
	Vertice:							
DISTANZA	Offset d.mezz.		0.01278	0.00000	0.07500	-0.07500	0.01278	+
LUNGHEZ.	Larghezza		0.04618	0.07500	0.07500	-0.07500	-0.02882	--
DISTANZA	Setback		0.39198	0.40000	0.10000	-0.10000	-0.00802	-
	Cuspide:							
ANGOLO	Angolo	si	59.10974	60.00000	1.00000	-1.00000	-0.89026	----
ANGOLO	Angolo	de	59.69265	60.00000	1.00000	-1.00000	-0.30735	--
	Dente 29							
	Vertice:							
DISTANZA	Offset d.mezz.		0.00633	0.00000	0.07500	-0.07500	0.00633	+
LUNGHEZ.	Larghezza		0.06327	0.07500	0.07500	-0.07500	-0.01173	-
DISTANZA	Setback		0.41678	0.40000	0.10000	-0.10000	0.01678	+
	Cuspide:							
ANGOLO	Angolo	si	59.02920	60.00000	1.00000	-1.00000	-0.97080	----
ANGOLO	Angolo	de	59.81588	60.00000	1.00000	-1.00000	-0.18412	-

Docum.archiviato elettronicamente.Archiviazione cartacea non necessaria

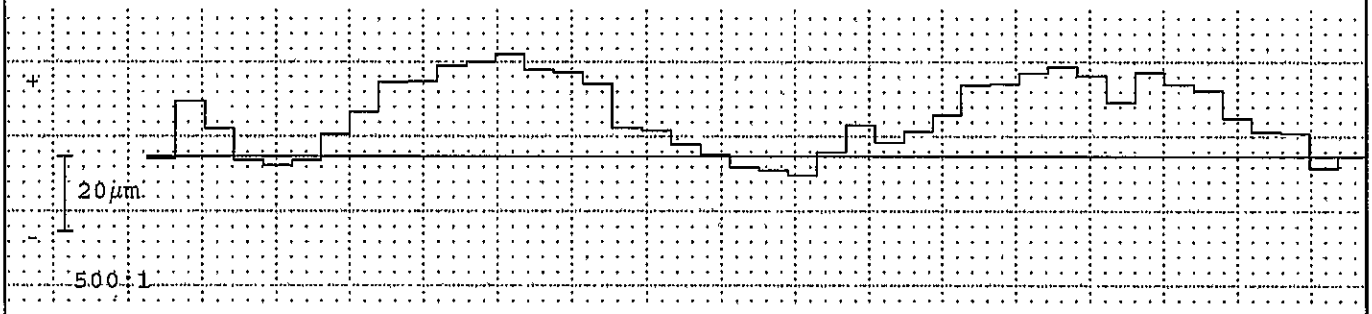
Ruota cilindrica Divisione

Nr. prog.:	STI0410o05 0 PNC35 B4784	Controllore:	Turno c	Data:	04.04.2017 08:30
Denominazione:	CA SRRW Ford	Numero denti z	42	Angolo pressione	30°
Numero disegno.:	055.8.5463.00-IG1H	Modulo m	2mm	Angolo elica	4.5/-4.5°
Commessa/serie nr.:	1	Untersuchungszweck:	Laufende Messung		
Masch.Nr.:	M001 Spindel: Formmessung	Werkzeug:		Charge:	

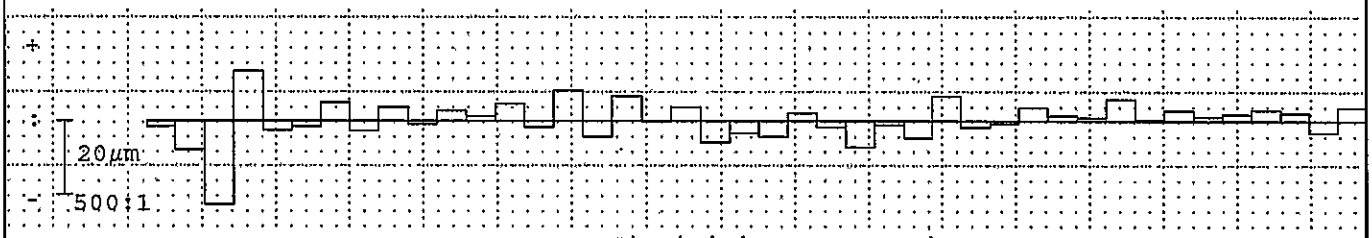
Errori singoli di divisione fp fianco sinistro



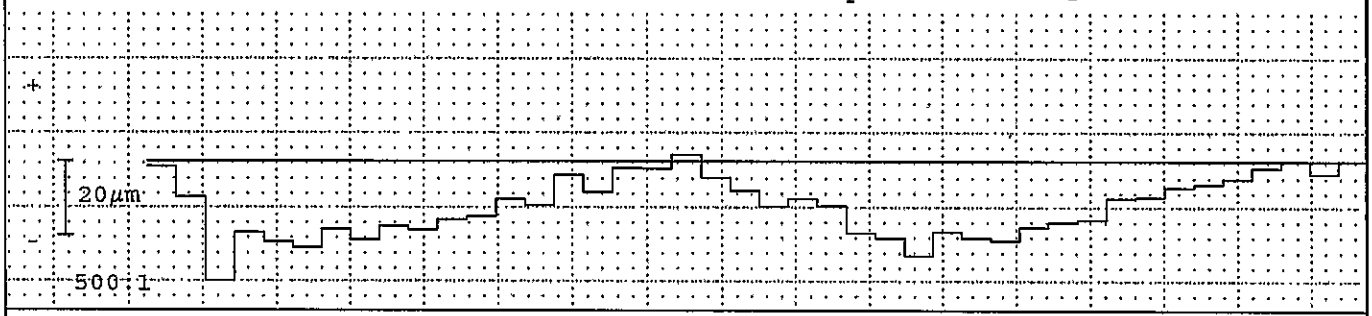
Errore somma di divisione Fp fianco sinistro



Errori singoli di divisione fp fianco destro



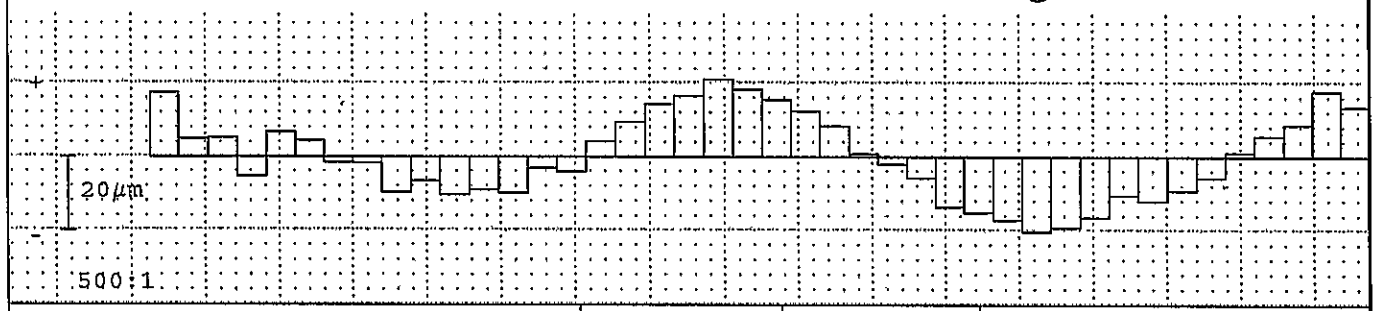
Errore somma di divisione Fp fianco destro



Corsa per misura divis.:85.794 z=1.5mm

		fianco sinistro				fianco destro			
		Val.misur	Qual.	Val. amm	Qual.	Val.misur	Qual.	Val. amm	Qual.
Gr. err. singoli divisione	fp max	15				23			
Gr. salto di passo	fu max	23				36			
Scarto di divisione	Rp	27				36			
Err. globale di divisione	Fp-e	33				34			
Err. cordale di divisione	Fpz/8	25				32			

Centricità Fr (Ø-sfera =4.5mm) ◎ : 10µm



Err. di concentricitá	Fr	41	100	
Variaz. spessore dente	Rs			

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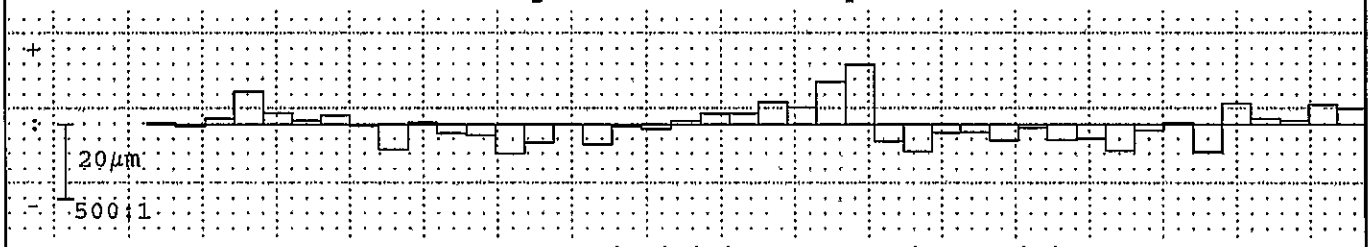
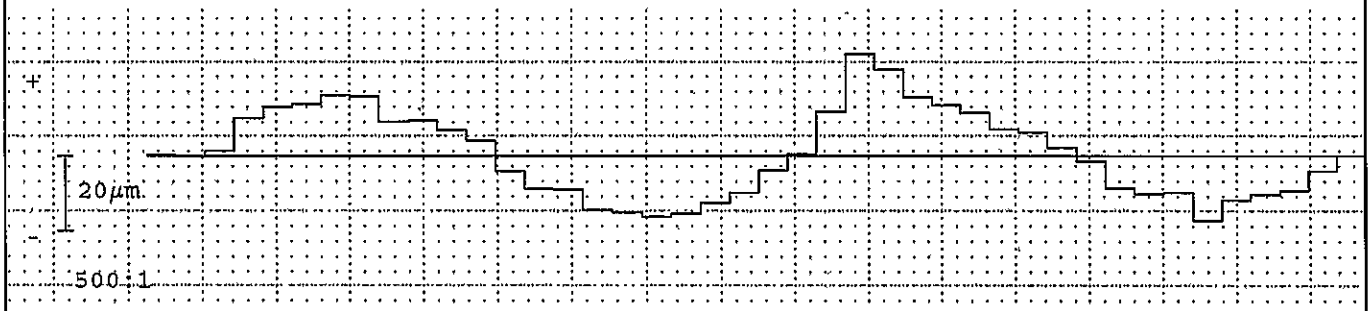
Ruota cilindrica Divisione

Nr. prog.: STI0410o05 0 PNC35 B4784	Controllore: Turno c	Data: 04.04.2017 08:21	
Denominazione: CA SRRW Ford	Numero denti z 42	Angolo pressione 30°	
Numero disegno.: 055.8.5463.00-IG1H	Modulo m 2mm	Angolo elica 4.5/-4.5°	
Commessa/serie nr.: 2	Untersuchungszweck: Laufende Messung		
Masch.Nr.: M001 Spindel: Formmessteil	Charge:		

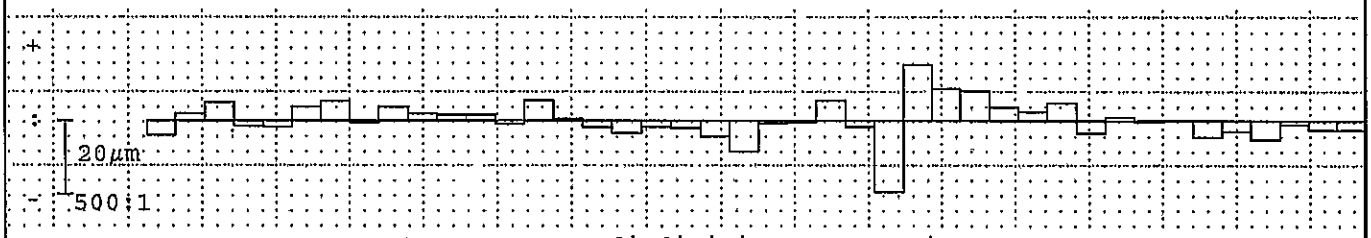
Errori singoli di divisione fp fianco sinistro



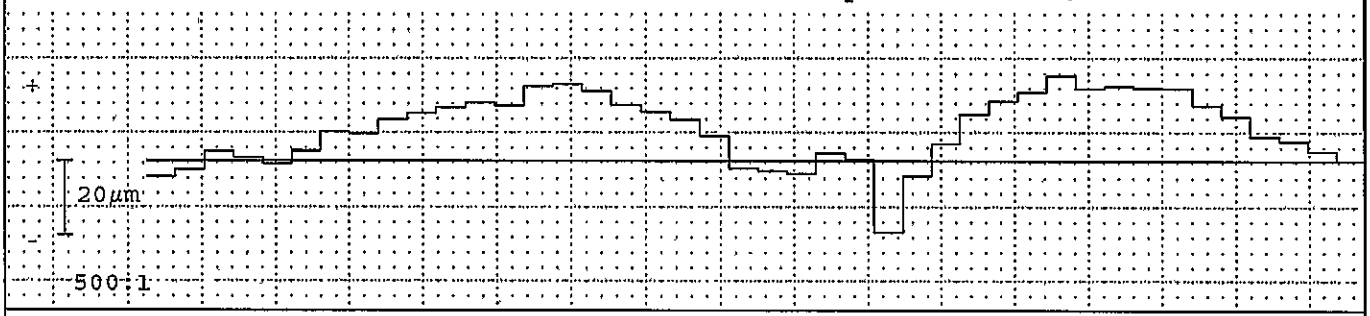
Errore somma di divisione Fp fianco sinistro



Errori singoli di divisione fp fianco destro



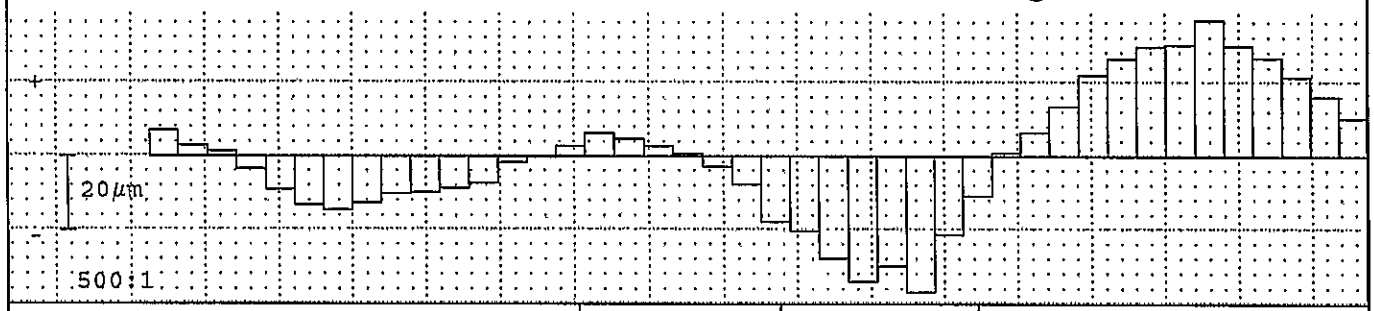
Errore somma di divisione Fp fianco destro



Corsa per misura divis.:85.794 z=1.5mm

		fianco sinistro Val.misur	Qual.	Val. amm	Qual.	fianco destro Val.misur	Qual.	Val. amm	Qual.
Gr. err. singoli divisione	fp max	16				19			
Gr. salto di passo	fu max	20				35			
Scarto di divisione	Rp	24				34			
Err. globale di divisione	Fp-e	45				42			
Err. cordale di divisione	Fpz/8	40				37			

Centricità Fr (Ø-sfera =4.5mm) ◎ : 31µm



Err. di concentricitá	Fr	74	100	
Variaz. spessore dente	Rs			

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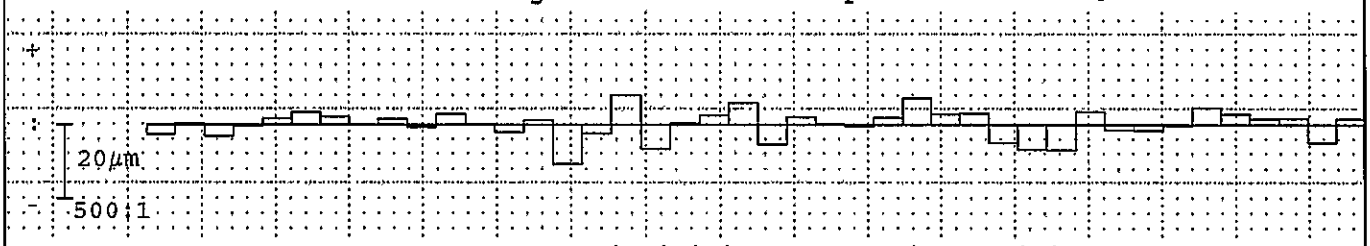
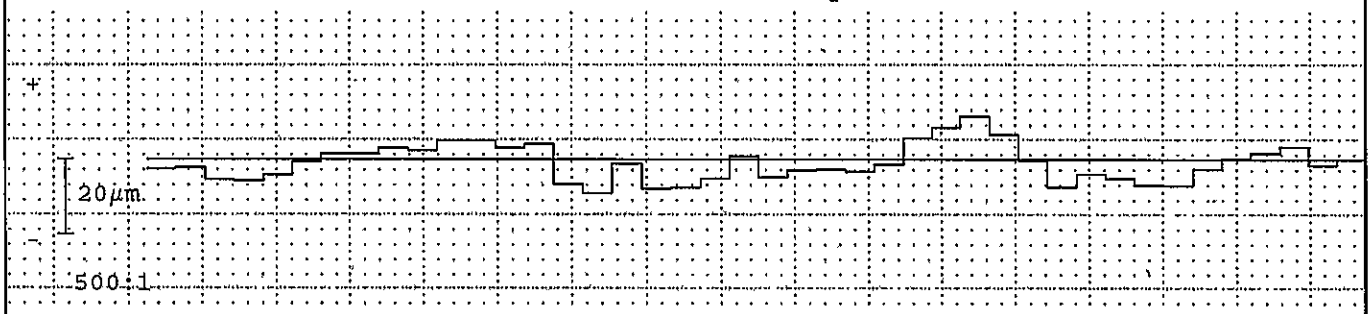
Ruota cilindrica Divisione

Nr. prog.: STI0410o05 0 PNC35 B4784	Controllore: Turno c	Data: 04.04.2017 09:30	
Denominazione: CA SRRW Ford	Numero denti z 42	Angolo pressione 30°	
Numero disegno.: 055.8.5463.00-IG1H	Modulo m 2mm	Angolo elica 4.5/-4.5°	
Commessa/serie nr.: 3	Untersuchungszweck: Laufende Messung		
Masch.Nr.: M001 Spindel: Formrad	Werkzeug:	Charge:	

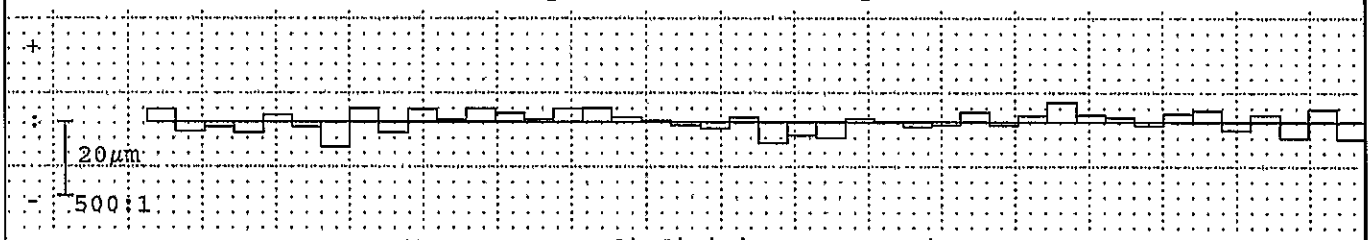
Errori singoli di divisione fp fianco sinistro



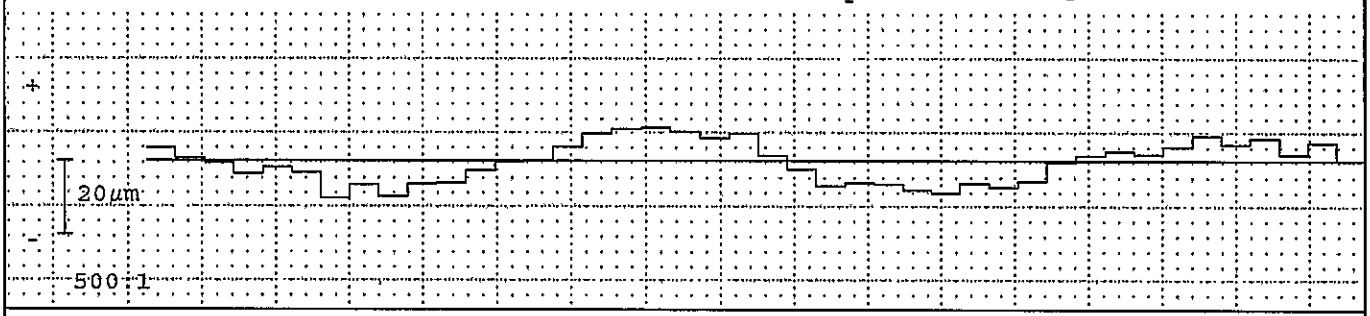
Errore somma di divisione Fp fianco sinistro



Errori singoli di divisione fp fianco destro



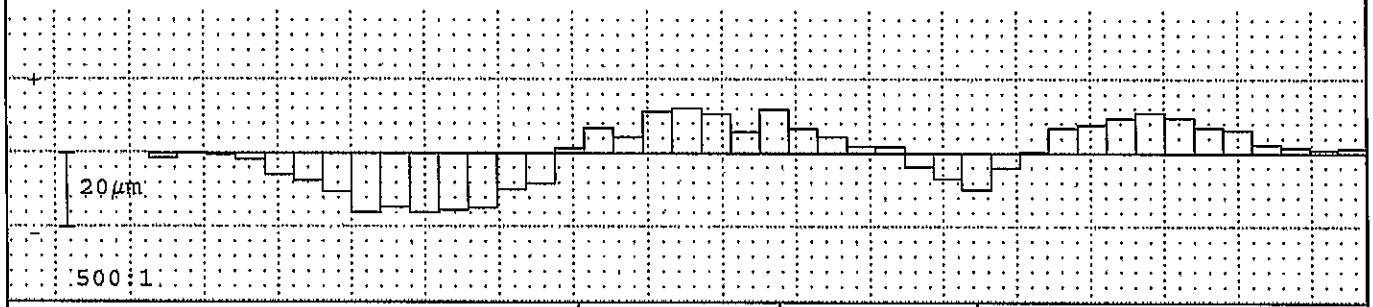
Errore somma di divisione Fp fianco destro



Corsa per misura divis.:85.794 z=1.5mm

		fianco sinistro				fianco destro			
		Val.misur	Qual.	Val. amm	Qual.	Val.misur	Qual.	Val. amm	Qual.
Gr. err. singoli divisione	fp max	11				7			
Gr. salto di passo	fu max	15				11			
Scarto di divisione	Rp	19				12			
Err. globale di divisione	Fp-e	20				19			
Err. cordale di divisione	Fpz/8	17				15			

Centricità Fr (Ø-sfera =4.5mm) ◎ : 13µm



Err. di concentricitá	Fr	28	100	
Variaz. spessore dente	Rs			

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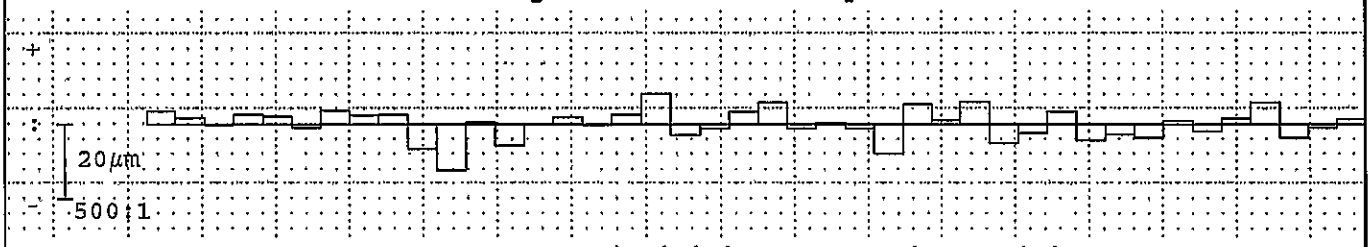
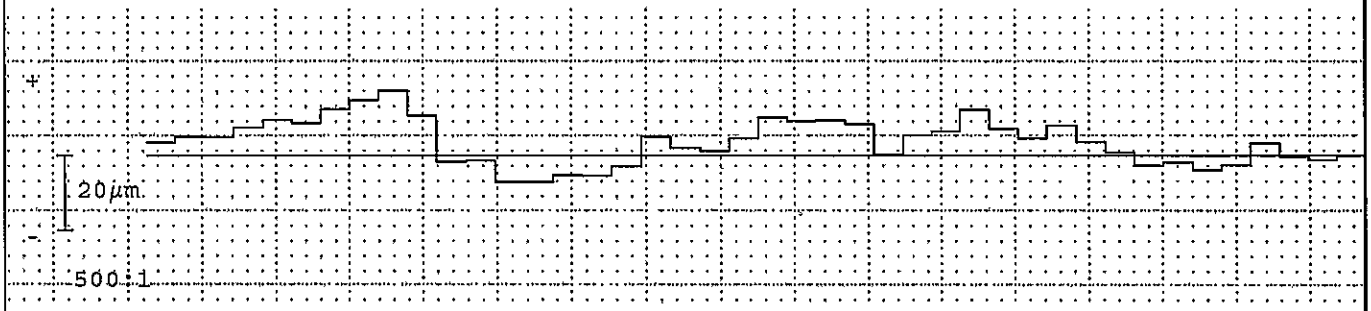
Ruota cilindrica Divisione

Nr. prog.:	STI0410o05 0 PNC35 B4784	Controllore:	Turno c	Data:	04.04.2017 09:37
Denominazione:	CA SRRW Ford	Numero denti z	42	Angolo pressione	30°
Numero disegno.:	055.8.5463.00-IG1H	Modulo m	2mm	Angolo elica	4.5/-4.5°
Commessa/serie nr.:	4	Untersuchungszweck:	Laufende Messung		
Masch.Nr.:	M001 Spindel: Formmeßzeug			Charge:	

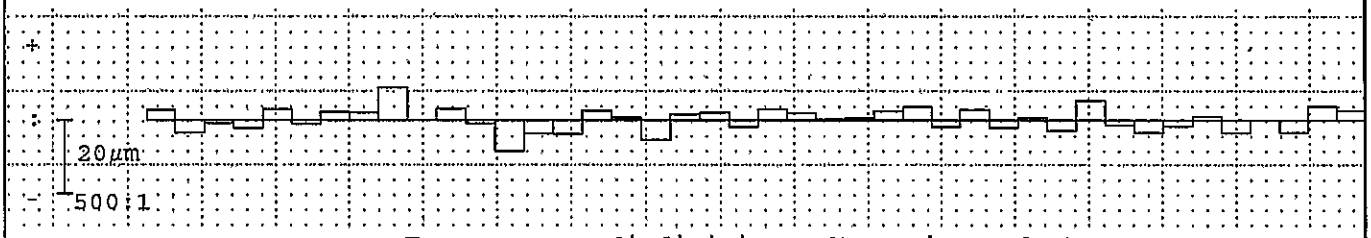
Errori singoli di divisione fp fianco sinistro



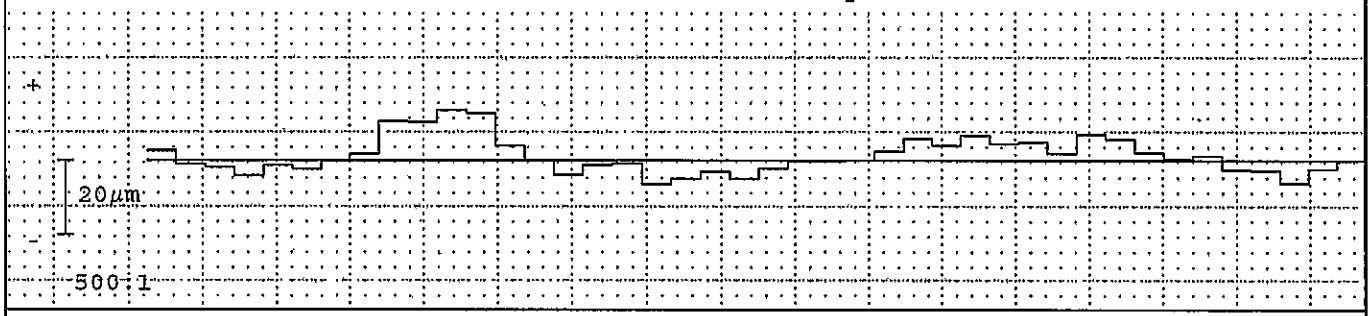
Errore somma di divisione Fp fianco sinistro



Errori singoli di divisione fp fianco destro



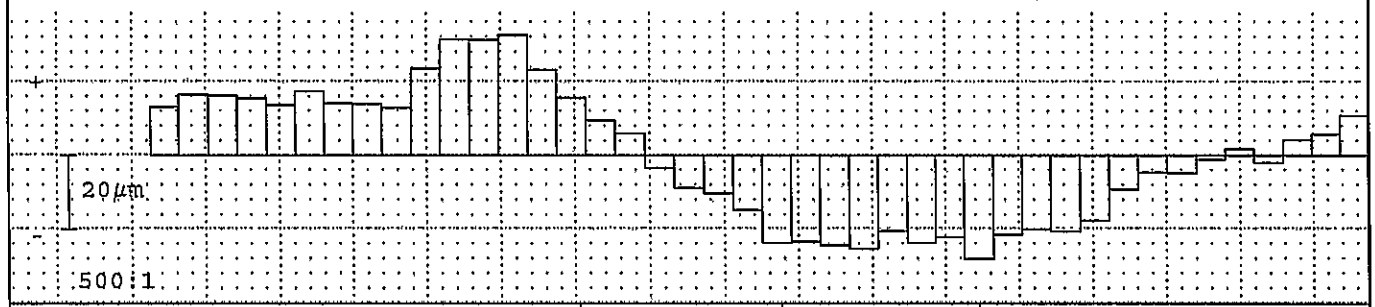
Errore somma di divisione Fp fianco destro



Corsa per misura divis.:85.794 z=1.5mm

		fianco sinistro				fianco destro			
		Val.misur	Qual.	Val. amm	Qual.	Val.misur	Qual.	Val. amm	Qual.
Gr. err. singoli divisione	fp max	12				9			
Gr. salto di passo	fu max	13				9			
Scarto di divisione	Rp	20				18			
Err. globale di divisione	Fp-e	24				20			
Err. cordale di divisione	Fpz/8	24				16			

Centricità Fr (Ø-sfera =4.5mm) ◎ : 47µm



Err. di concentricitá	Fr	61	100	
Variaz. spessore dente	Rs			

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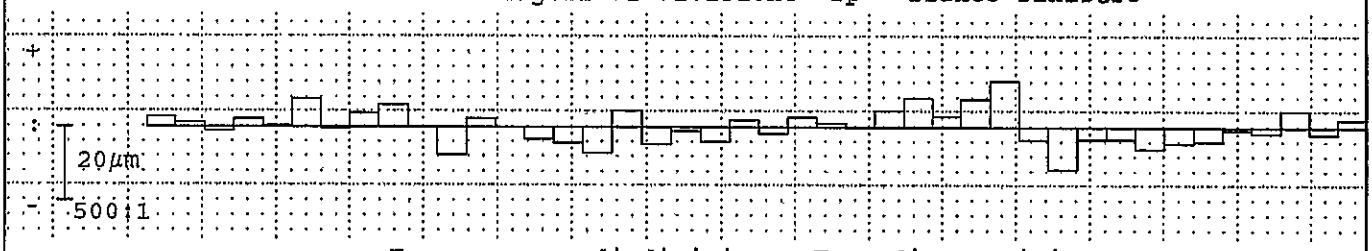
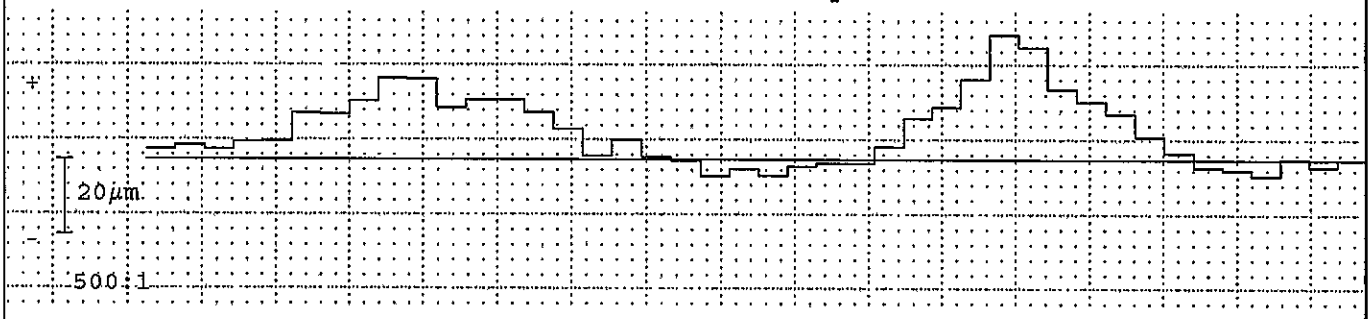
Ruota cilindrica Divisione

Nr. prog.:	STI0410o05 0 PNC35 B4784	Controllore:	Turno d	Data:	04.04.2017 14:16
Denominazione:	CA SRRW Ford	Numero denti z	42	Angolo pressione	30°
Numero disegno.:	055.8.5463.00-IG1H	Modulo m	2mm	Angolo elica	4.5/-4.5°
Commessa/serie nr.:	5	Untersuchungszweck:	Laufende Messung		
Masch.Nr.:	M001 Spindel: Formmaschine	Werkzeug:		Charge:	

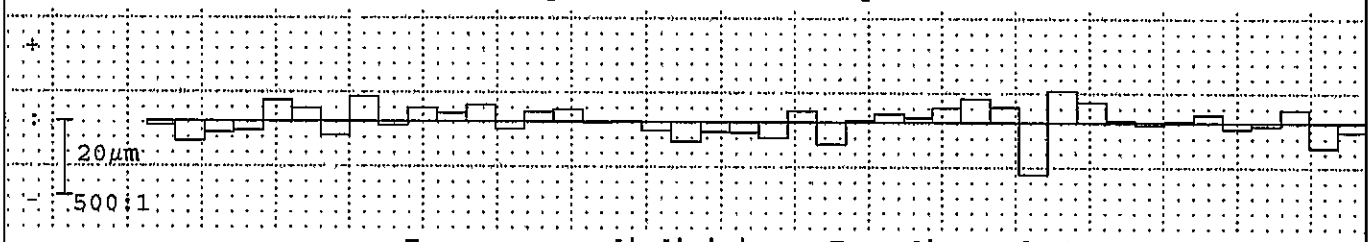
Errori singoli di divisione fp fianco sinistro



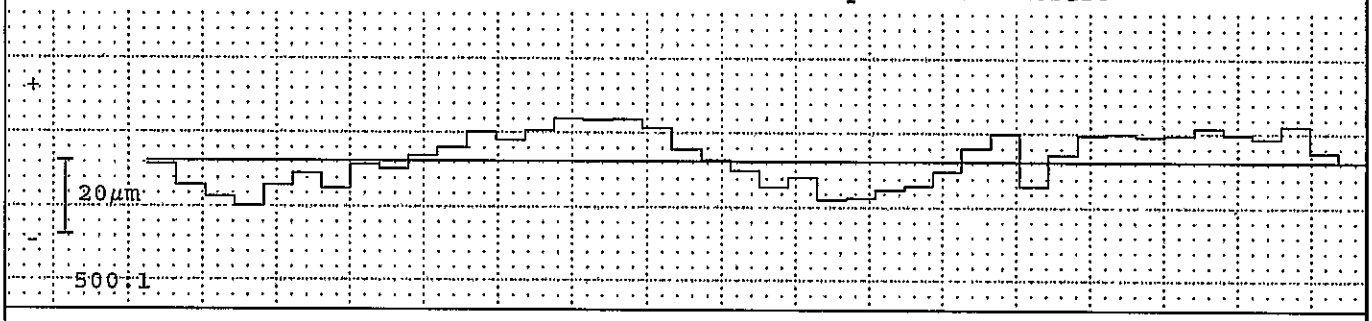
Errore somma di divisione Fp fianco sinistro



Errori singoli di divisione fp fianco destro



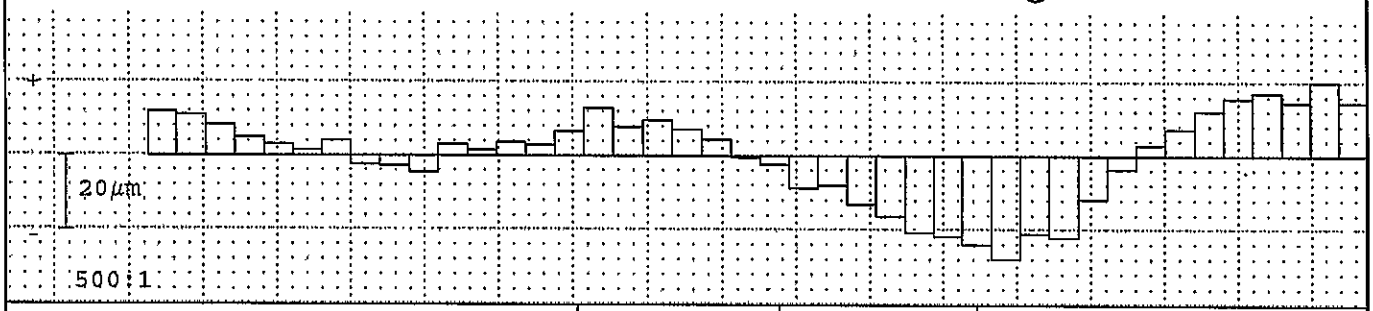
Errore somma di divisione Fp fianco destro



Corsa per misura divis.:85.794 z=1.5mm

		fianco sinistro				fianco destro			
		Val.misur	Qual.	Val. amm	Qual.	Val.misur	Qual.	Val. amm	Qual.
Gr. err. singoli divisione	fp max	12				14			
Gr. salto di passo	fu max	16				23			
Scarto di divisione	Rp	23				22			
Err. globale di divisione	Fp-e	38				24			
Err. cordale di divisione	Fpz/8	35				19			

Centricità Fr (Ø-sfera =4.5mm) ◎ : 22µm



Err. di concentricitá	Fr	48	100	
Variaz. spessore dente	Rs			

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PROTOCOLLO DI MISURA ZEISS UMESS

SRW CICLO CNC

DISEGNO No.	MACCHINA DI MIS.	FORNITORE/CLIENTE	LAVORAZ.	OPERAZIONE
2501364808	PRISMO SACC	GETRAG	T. HARD	

OPERATORE	DATA	NUMERO PART.	COD. MACCH.	EDIZ.DISEG.FIN.
	04. 4.2017	1		

IND	NOMI / IDF	SY	VAL ATT	VAL NOM	TOL.S	TOL.I	DEV	MAG
04. 4.2017 9 ora 03 min 21. 0sec								
20	GDT OSCILL. ASSIALE							
	SUPERF.C.A	t	0.040	0.100				++
324	SUPERFICIE RICHIAMO (19) CON TRASFORMAZIONE							
	ALT. C.A.	Z	17.434	17.300	0.180	-0.080	0.134	+++

CNC - TERM.

IND	NOMI / IDF	SY	VAL ATT	VAL NOM	TOL.S	TOL.I	DEV	MAG
324	SUPERFICIE RICHIAMO (19) CON TRASFORMAZIONE							
	ALT. C.A.	Z	17.400	17.300	0.180	-0.080	0.100	++

CNC - TERM.

PROTOCOLLO DI MISURA ZEISS UMESS

SRW CICLO CNC

DISEGNO No.	MACCHINA DI MIS.	FORNITORE/CLIENTE	LAVORAZ.	OPERAZIONE
2501364808	PRISMO SACC	GETRAG	T. HARD	

OPERATORE	DATA	NUMERO PART.	COD. MACCH.	EDIZ.DISEG.FIN.
	04. 4.2017	2		

IND	NOMI / IDF	SY	VAL ATT	VAL NOM	TOL.S	TOL.I	DEV	MAG
04. 4.2017 9 ora 17 min 20. 0sec								
20	GDT OSCILL. ASSIALE							
	SUPERF.C.A	t	0.069	0.100				+++
324	SUPERFICIE RICHIAMO (19) CON TRASFORMAZIONE							
	ALT. C.A.	Z	17.337	17.300	0.180	-0.080	0.037	-

CNC - TERM.

PROTOCOLLO DI MISURA ZEISS UMESS

SRW CICLO CNC

DISEGNO No.	MACCHINA DI MIS.	FORNITORE/CLIENTE	LAVORAZ.	OPERAZIONE
2501364808	PRISMO SACC	GETRAG	T. HARD	

OPERATORE	DATA	NUMERO PART.	COD. MACCH.	EDIZ.DISEG.FIN.
	04. 4.2017	3		

IND	NOMI / IDF	SY	VAL ATT	VAL NOM	TOL.S	TOL.I	DEV	MAG
04. 4.2017 9 ora 35 min 18. 0sec								
20	GDT OSCILL. ASSIALE							
	SUPERF.C.A	t	0.079	0.100				++++
324	SUPERFICIE RICHIAMO (19) CON TRASFORMAZIONE							
	ALT. C.A.	Z	17.344	17.300	0.180	-0.080	0.044	-

CNC - TERM.

PROTOCOLLO DI MISURA ZEISS UMESS

SRW CICLO CNC

DISEGNO No.	MACCHINA DI MIS.	FORNITORE/CLIENTE	LAVORAZ.	OPERAZIONE
2501364808	PRISMO SACC	GETRAG	T. HARD	

OPERATORE	DATA	NUMERO PART.	COD. MACCH.	EDIZ.DISEG.FIN.
	04. 4.2017	4		

IND	NOMI / IDF	SY	VAL ATT	VAL NOM	TOL.S	TOL.I	DEV	MAG
04. 4.2017 9 ora 45 min 20. 0sec								
20	GDT OSCILL. ASSIALE							
	SUPERF.C.A	t	0.027	0.100				++
324	SUPERFICIE RICHIAMO (19) CON TRASFORMAZIONE							
	ALT. C.A.	Z	17.335	17.300	0.180	-0.080	0.035	-

CNC - TERM.

PROTOCOLLO DI MISURA ZEISS UMESS

SRW . CICLO CNC

DISEGNO No.	MACCHINA DI MIS.	FORNITORE/CLIENTE	LAVORAZ.	OPERAZIONE
2501364808	PRISMO SACC	GETRAG	T. HARD	

OPERATORE	DATA	NUMERO PART.	COD. MACCH.	EDIZ.DISEG.FIN.
	04. 4.2017	5		

IND	NOMI / IDF	SY	VAL ATT	VAL NOM	TOL.S	TOL.I	DEV	MAG
04. 4.2017 9 ora 57 min 41. 0sec								
20	GDT OSCILL. ASSIALE							
	SUPERF.C.A	t	0.085	0.100				++++
324	SUPERFICIE RICHIAMO (19) CON TRASFORMAZIONE							
	ALT. C.A.	Z	17.436	17.300	0.180	-0.080	0.136	+++

CNC - TERM.

New P/N 3648.08 introduction (gear w/o E.R.: 3649.05)	
Short description:	New ER 120° introduction (already in place on SG1)

	PPAP Requirements	Required	Note	PPAP Docs updated
1	Design Records	Yes		YES
2	Authorized Engineering change documents	Yes	see dwg	YES
3	Customer Engineering approval	n.a.		
4	DFMEA	NO		
5	Process flow diagram(s)	NO		
6	PFMEA	Yes		YES
7	Control plan	Yes		YES
8	Measurement system analysis studies	NO		
9	Dimensional results	Yes		YES
10	Records of Material / Performance test results	NO		
11	Initial process studies	NO		
12	Qualified laboratory documentation	NO		
13	Appearance Approval Report (A.A.R.)	n.a.		
14	Sample Production Parts	Yes		YES
15	Master sample	Yes		YES
16	Checking aids	n.a.		
17	Customer-Specific Requirements	NO		
18	Part Submission Warrant (PSW)	Yes		YES

	Other requirements			
1	PSW Raw part	NO		
2	PSW E.P. part	NO		
3	PSW Engagement Rings	Yes		See SG1

GETRAG

Part Submission Warrant

Part Name: Speed Gear Rev
Customer Part Number: 250.1.4228.07
Shown on Drawing No.: 250.1.4228.07
Organization Part #:
Engineering Change Level: a 36088 - C009610_MIP_1
Dated: 15-set-15
Additional Engineering Changes:
Dated:
Safety and/or Government Regulation: ☑ Yes ☐ No
Purchase Order No.:
Weight (kg): 0.8370
Checking Aid No.:
Checking Aid Engineering Change Level:
Dated:

ORGANIZATION MANUFACTURING INFORMATION

GETRAG MODUGNO
Organization Name & Supplier/Vendor Code

VIA DEI CICLAMINI N°4
Street Address

MODUGNO BARI 70026 ITALY
City Region Postal Code Country

CUSTOMER SUBMITTAL INFORMATION

Customer Name/Division

Buyer/Buyer Code

TYP 250
Application

MATERIALS REPORTING

Has customer-required Substances of Concern information been reported? ☑ Yes ☐ No ☐ n/a

Submitted by IMDS or other customer format:

Are polymeric parts identified with appropriate ISO marking codes? ☐ Yes ☐ No ☑ n/a

REASON FOR SUBMISSION (Check at least one)

- ☑ Initial Submission
- ☐ Engineering Change(s)
- ☐ Tooling: Transfer, Replacement, Refurbishment, or additional
- ☐ Correction of Discrepancy
- ☐ Tooling Inactive > than 1 year
- ☐ Change to Optional Construction or Material
- ☐ Supplier or Material Source Change
- ☐ Change in Part Processing
- ☐ Parts Produced at Additional Location
- ☐ Other - please specify below

REQUESTED SUBMISSION LEVEL (Check one)

- ☐ Level 1 - Warrant only (and for designated appearance items, an Appearance Approval Report) submitted to customer.
- ☐ Level 2 - Warrant with product samples and limited supporting data submitted to customer.
- ☑ Level 3 - Warrant with product samples and complete supporting data submitted to customer.
- ☐ Level 4 - Warrant and other requirements as defined by customer.
- ☐ Level 5 - Warrant with product samples and complete supporting data reviewed at organization's manufacturing location.

SUBMISSION RESULTS

The results for ☑ dimensional measurements ☑ material and functional tests ☐ appearance criteria ☑ statistical process package

These results meet all drawing and specification requirements: ☑ Yes ☐ NO (If "NO" - Explanation Required)

Mold / Cavity / Production Process

DECLARATION

I hereby affirm that the samples represented by this warrant are representative of our parts which were made by a process that meets all Production Part Approval Process Manual 4th Edition Requirements. I further affirm that these samples were produced at the production rate of 1860 / 24 hours. I also certify that documented evidence of such compliance is on file and available for review. I have noted any deviations from this declaration below.

EXPLANATION / COMMENTS: **First Submission PPAP for code 250 1 3648 08 (PPAP only for differences respect to 250 1 3648 05)**

New kk: 055.8.5463.00 (already in place on SG1)

Is each Customer Tool properly tagged and numbered? ☐ Yes ☐ No ☑ n/a

Organization Authorized Signature: Camarda

Date: 05/04/2017

Print Name: Camarda Ettore
Phone No.: tel 390805858220
Fax No.:

Title: Area 1 Manager
E-mail: ettore.camarda@getrag.com

FOR CUSTOMER USE ONLY (IF APPLICABLE)

Part Warrant Disposition: ☒ Approved ☐ Rejected ☐ Other

Customer Signature:

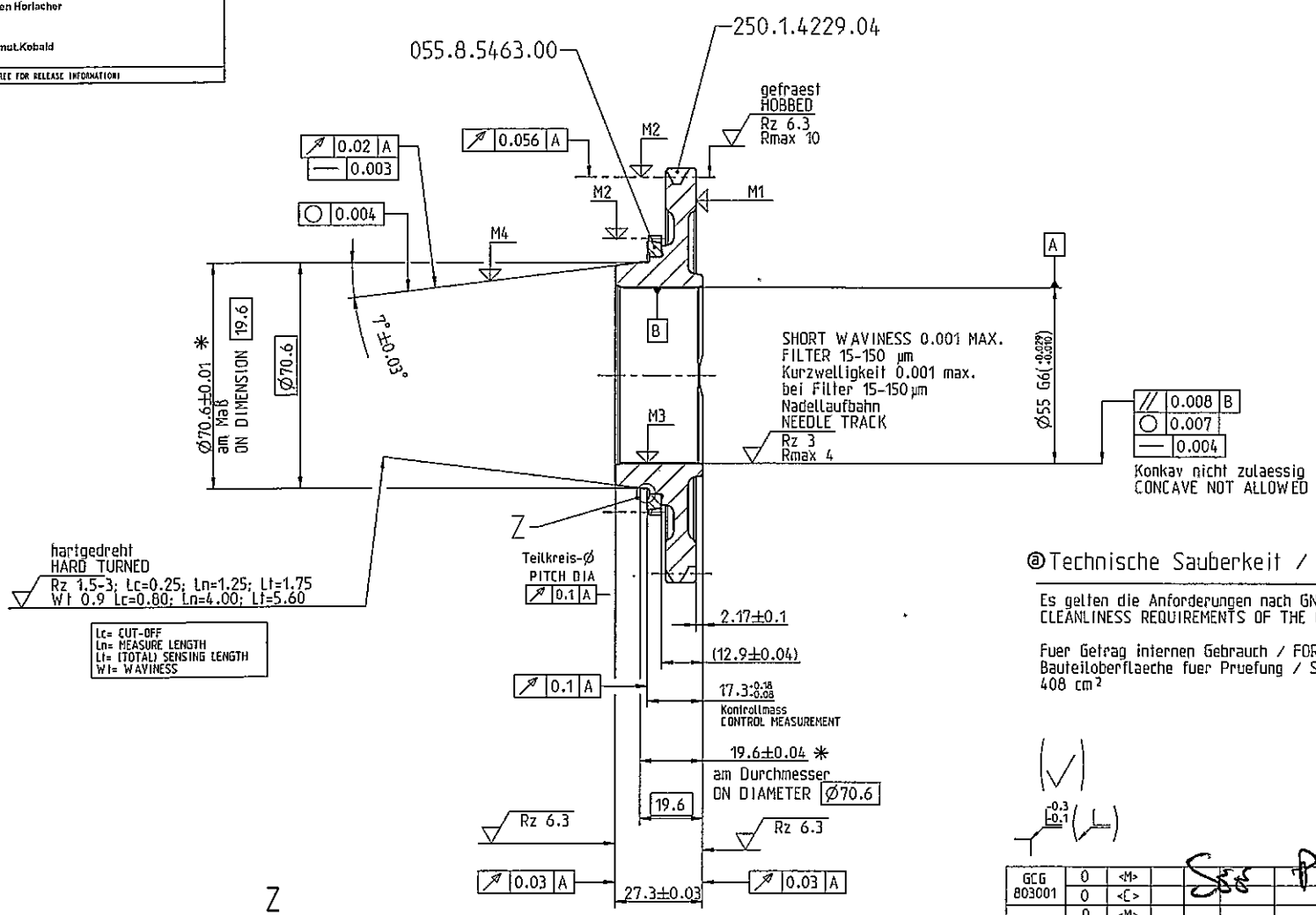
Date: 05.04.17

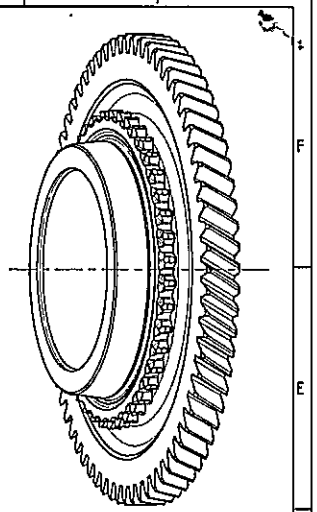
Print Name:

Customer Tracking Number (optional):

Design Release:	2015-10-09	Agapi Raidt
Function Release:	2015-10-13	Steffen Horlacher
Geardata Release:	not required	
Material Release:	not required	
SAP Release:	2015-10-28	Hartmut.Kobald
Document Status:	approved	

fuer Freigabeinformation freihalten! KEEP FREE FOR RELEASE INFORMATION!





ⓐ Technische Sauberkeit / TECHNICAL CLEANLINESS:

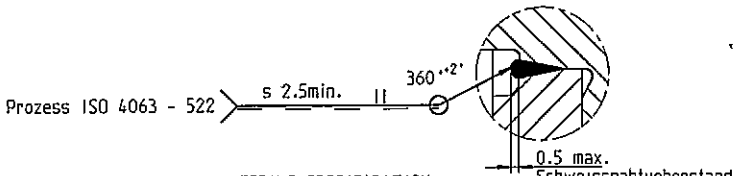
Es gelten die Anforderungen nach GN 4340-1
CLEANLINESS REQUIREMENTS OF THE GN 4340-1 HAVE TO BE ABIDED

Fuer Getrag internen Gebrauch / FOR GETRAG INTERNAL USE
Bauteiloberflaeche fuer Pruefung / SURFACE TO PROVE:
408 cm²

Naehere Angaben zur Verzahnung
siehe Verzahnungsblatt
250.1.4229.04
FURTHER GEAR DATA SEE
DATA SHEET NUMBER
250.1.4229.04

Z
unmassstaeblich
not to scale

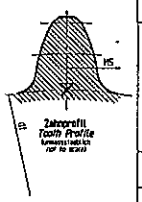
* wahlweise Messung
ALTERNATIVE MEASUREMENT



CHECKED ACCORDING ENGINEERING SPECIFICATION
S 3S7R-7M161-AA. DEVIATION FROM THIS SPECIFICATION:
LONGITUDINAL MICRO CRACKS IN THE WELDING MATERIAL ARE
PERMISSIBLE TO A TOTAL OF 2% AROUND THE CIRCUMFERENCE.

einsatzgehaertet und angelassen
M1 (Oberflaechenhaerte) : 80.5+2.5 HRA
M2 (Zahnflanke) : CHD (Eht) 550=0.5+0.4
M3 (Bohrung) : CHD (Eht) 550= 0.3min.
M4 (Konus) : CHD (Eht) 550= 0.4+0.4
M5 (Kernhaerte) : min. 300 HV10

CASE HARDENED AND TEMPERED
M1 (CASE HARDNESS) : 80.5+2.5 HRA
M2 (TOOTH FLANK) : CHD (Eht) 550=0.5+0.4
M3 (BORE) : CHD (Eht) 550= 0.3min.
M4 (CONE) : CHD (Eht) 550= 0.4+0.4
M5 (INSIDE BASE OF TOOTH) : min. 300 HV10



GCG 803001	0	<M>		See PPAP DOC.		
	0	<C>				
GN 3010	0	<M>		3648.08 "2"		
	0	<C>				
	0	<A>				
CAD Prof Tagliaer	a	1x	36088	Technische Sauberkeit/TECHNICAL CLEANLINESS aktualisiert/UPDATED		20150915
	---	---	C000357_EP_2	Spezifikationsreifegrad 3 erteilt / MATURITY LEVEL OF SPECIFICATION 3 APPROVED		20141112

Massstab / SCALE: M. 1:1 (--)	Buchst. CHANGE INDEX	Anzahl NUMBER	Aend.-Nr. CHANGE ORDER NO.	Aenderung --nur mittels CAD zulaessig- FMEA ueberpruefen-- MODIFICATION --ONLY ALLOWED BY CAD; CHECK FMEA--	Datum DATE

Allgemeintoleranzen fuer Laengenmasse, Form und Lage ISO 2768 - mH gebrochene Kanten, Radien und Winkelmasse ISO 2768 - v
GENERAL TOLERANCES FOR LINEAR DIMENSIONS, FORM AND POSITION ISO 2768 - mH CHAMFERS, RADII AND ANGULAR DIMENSIONS ISO 2768 - v

Informationen auf dieser Zeichnung sind ohne Angaben zu Verwendung und Freigabe unverbindlich.
INFORMATION ON THIS DRAWING PROVIDED WITHOUT OBLIGATION IF USAGE AND RELEASE ARE NOT SHOWN.

Auswertung der Durchmessermessung erfolgt nach der Gauss-Methode (Arithmetischer Mittelwert)
EVALUATION OF THE DIAMETER MEASUREMENT IS CARRIED OUT ACCORDING TO THE GAUSS METHOD (ARITHMETICAL MEAN VALUE)

Form- und Lagetolerierung FORM AND POSITION TOLERANCES EN ISO 1101	Tolerierung TOLERANCING ISO 8015	Oberflaechenangaben SURFACE TEXTURE GN 4005	Werkstueckkanten BREAK EDGES ISO 13715

Werkstoff / MATERIAL

Halbzeug SEMI-FINISHED

oelbenetzte Oberflaeche OIL WETTED SURFACE 0 mm²

Gesamtoberflaeche SURFACE AREA 0 mm² Masse MASS 0.837 kg

GETRAG
Getriebe- und Zahnradfabrik Hermann Hagenmeyer GmbH & Cie KG
Schutzvermerk nach ISO 16016 beachten PROTECTION PER ISO 16016

Benennung / ITEM NAME: SPEED GEAR REV. CPL.
Schaltrad Rw.-Gg. vst.

Artikel-Nr./ ITEM NO.: 2501422807
CAD-Modell: 2501422807

Blatt/SHEET 1 von/OF 1 | Reifegrad MATURITY 3 | Format SIZE A2

Ersatz fuer SUBSTITUTE FOR -

INTRALINK DATA	CHECKED IN BY	CHECKED IN ON dd.mm.yyyy hh:mm:ss	VERSION
Zeichg / DRW:	Agapi.Raidt	09.10.2015 08:41:04	4
MODEL:	Agapi.Raidt	13.09.2015 12:40:33	3+

HOERBIGER

PART SUBMISSION WARRANT

Part name Kupplungskoerper		Part Number 0558546300	
Safety and/or Government Regulation	☐ Yes ☒ No	Engineering Drawing Change Level "b"	Dated 25.10.2016
Additional Engineering Changes C000611_MIP_1			Dated ____
Shown on Drawing No. 0558546300		Purchase Order No. 550003206501	Weight (kg) 0,0436kg
Checking Aid No. ____		Engineering Change Level F	Dated 10.03.16

Supplier Manufacturing Information

HOERBIGER Synchron Technik GmbH
Supplier Name & Supplier Code

Lembacher Str. 2
Street Address

Oberstenfeld Germany 71720
City State Zip

Submission Information

☐ Dimensional ☐ Materials / Functional ☐ Appearance

GETRAG GmbH & Cie. KG
Customer Name/Division

Andrea Harrack
Buyer/Buyer Code

Project DCT 250
Application

Materials reporting

Has customer-required Substances of Concern information been reported? ☒ Yes ☐ No ☐ n/a (If „No" - Explanation Required)

Submitted by IMDS or other customer format: IMDS-No. 281134354

Are polymeric parts identified with appropriate ISO marking codes? ☐ Yes ☐ No ☒ n/a

Reason for submission

☐ Initial submission
☒ Engineering Change(s)
☐ Tooling: Tranfer, Replacement, Refurbishment, or additional
☐ Correction of Discrepancy
☐ Tooling Inactive > than 1 year
☐ Change to Optional Construction or Material
☐ Sub-Supplier or Material Source Change
☐ Change in Part Processing
☐ Parts Produced at Additional Location
☐ Other – please specify:

Requested submission level (Check one)

☐ Level 1 - Warrant only (and for designated appearance items, an Appearance Approval Report) submitted to customer
☐ Level 2 – Warrant with product samples and limited supporting data submitted to customer
☒ Level 3 – Warrant with product samples and complete supporting data submitted to customer
☐ Level 4 – Warrant and other requirements as defined by customer
☐ Level 5 – Warrant with product samples and complete supporting data reviewed at supplier's manufacturing location

Submission results

The results for ☐ dimensional measurements ☒ material and functional tests ☐ appearance criteria ☐ statistical process package

These results meet all drawing and specification requirements ☒ Yes ☐ No (If „No" - Explanation Required)

Mold / Cavity / Production Process ____

Declaration

I heregy affirm that the samples represented by this warrant are representative of our parts, have been made to the applicable Production Part Approval Process Manual 3rd Edition Requirements. I further warrant these samples were produced at the production rate of 500 pieces. I have noted any deviations from this declaration below.

MAGNA GETRAG

EXPLANATION / COMMENTS: Change from index: "a" to index: "b" is the addition of the meaning of the Hoerbiger symbols

Is each Customer Tool properly tagged and numbered? ☐ Yes ☐ No ☒ n/a

GETRAG Getriebe- und Zahnradfabrik Hermann Hagenmeyer GmbH & Cie KG
Hermann-Hagenmeyer-Straße
74199 Untergruppenbach

Print Name	Title	Phone No.	Fax No.
Thomas Lorenz	Quality Manager PSO-PPS-3	+49 7062 266 2284	+49 7062 266 2198

Supplier Authorized Signature: T. Lorenz Date 25.10.2016

For customer use only (if applicable)

Part Warrant Disposition: ☒ approved ☐ rejected ☐ other

Part Funtional Approval: ☐ approved ☐ waived

DEQ MAGNA / GETRAG — Customer Name
H. LIPS — Customer Signature
15/02/2017 — Date

SAP-17-00120