312206

GETRAG

Part Submission Warrant

Part Name: Speed Gear 1 | Customer Part Number: 250.1.4378.75

Shown on Drawing No.: 250.1.4378.75 | Organization Part #:

Engineering Change Level: c C001630_MIP_1 | Dated: 04-nov-15

Additional Engineering Changes: | Dated:

Safety and/or Government Regulation ☐ Yes ☑ No | Purchase Order No.: | Weight (kg): 1.5150

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

DCT250
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 ____ / ____ 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: **Marking introduction for shot peened parts (already in place)**

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

Organization Authorized Signature: Camarda | Date: 14/12/2015

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

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

FOR CUSTOMER USE ONLY (IF APPLICABLE)

Part Warrant Disposition: ☒ Approved ☐ Rejected ☐ Other

Customer Signature: J Sieke | Date: 14.12.15

Print Name | Customer Tracking Number (optional)

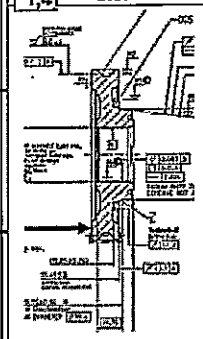
MAGNA GETRAG

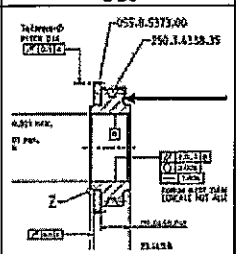
Foglio QPS
MACHINING

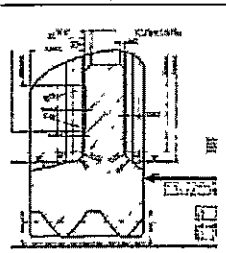
Stabilimento	Bari	Data creazione	12/12/15		
Reparto	GPS 1/GPS 2	QPS-N°			
Macchina	Pangborn	Revisione-N°	1		
Cambio Tipo (Elementi) 00:00 min:sec	Processo (OP-N°)	Pallinatura	Pagina	1	1
Tact time (Line) 00:00 min:sec	Componente/Variante	Tutti	Tipo modello	DCT250	

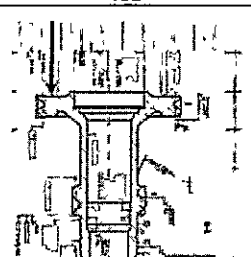
Marcatura pezzi pallinati

Fase N°	Step principale	Stazione man	Stazione auto	Stazione walk	relativo a (Loghi)	Immagini	Elemento principale (Fare riferimento a WES per fasi complesse)	Perché & Esperienza (Sicurezza - Qualità - Ambiente)
1	Procedura					1.1	Dopo aver eseguito rotazione tavola	
						1.2	Togliere il cappello se presente	
						1.3	Verificare visivamente se il pezzo è pallinato	Verificare la presenza della granigliatura sul pezzo
						1.4	Individuare area di marcatura a seconda del componente	Vedere tabella di riferimento
						1.5	Marcare con doppio "00" il pezzo	Marcare il pezzo prima di toglierlo dalla macchina
2								
3	1,4 SR1							
4	SG5							
5	RG							
6	IS2							
7	OS1							
8								









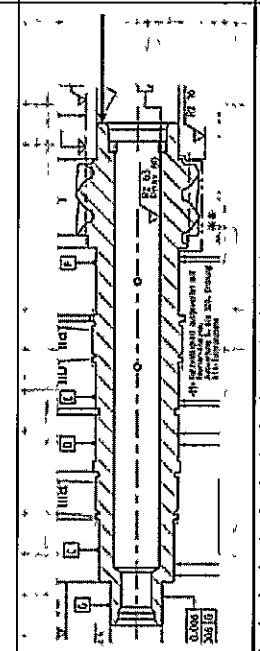
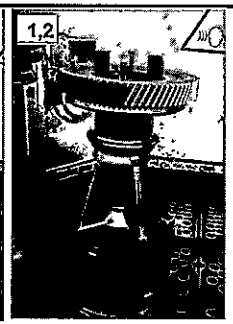
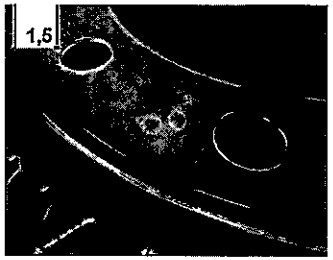
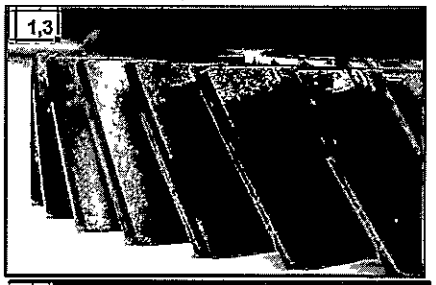


Immagine / Spiegazione







DPI necessari			Loghi						Gestione ambientale					
			00,00	00,00	00,00									
					Condizioni critic	Sicurezza	Controllo qualità	Costi	Ambiente					

Drawing 4378 update from index "b" to "c"					
Short description:	c	1x	C001630_MIP_1	Text: "Identification Mark "00" ..." added	20151104

	PPAP Requirements	Required	Note	PPAP Docs updated
1	Design Records	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	NO	Id mark already in place	
7	Control plan	Yes	Id mark already in place	YES
8	Measurement system analysis studies	NO		
9	Dimensional results	NO		
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	NO		

GETRAG

Part Submission Warrant

Part Name: Speed Gear 1 | Customer Part Number: 250.1.4380.75

Shown on Drawing No.: 250.1.4380.75 | Organization Part #:

Engineering Change Level: b C001630_MIP_1 | Dated: 04-nov-15

Additional Engineering Changes: | Dated:

Safety and/or Government Regulation: ☐ Yes ☑ No | Purchase Order No.: | Weight (kg): 1.6290

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

DCT250
Application

MATERIALS REPORTING

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

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EXPLANATION / COMMENTS: **Marking introduction for shot peened parts (already in place)**

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

Organization Authorized Signature: | Date: 14/12/2015

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

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

FOR CUSTOMER USE ONLY (IF APPLICABLE)

Part Warrant Disposition: ☑ Approved ☐ Rejected ☐ Other

Customer Signature: | Date: 14.12.15

Print Name: | Customer Tracking Number (optional):

MAGNA GETRAG

Foglio QPS
MACHINING

Cambio Tipo (Elementi)	00.00 min:sec	Stabilimento	Bari	Data creazione	12/12/15
		Reparto	GPS 1/GPS 2	QPS-N°	
		Macchina	Pangborn	Revisione-N°	1
		Processo (OP-N°)	Pallinatura	Pagina	1 | | 1
Tact time (Line)	00:00 min:sec	Componente/Variante	Tutti	Tipo modello	DCT250

Marcatura pezzi pallinati

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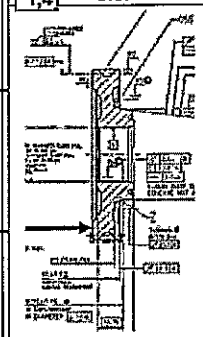
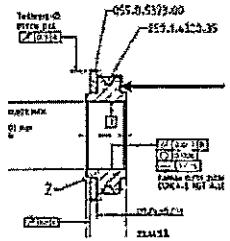
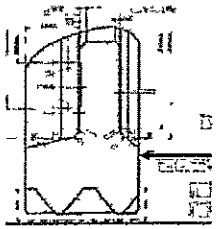
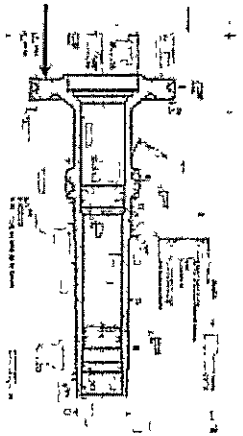
2								
3	1,4 SR1	SG5			RG		IS2	OS1
4								
5								
6								
7								
8								









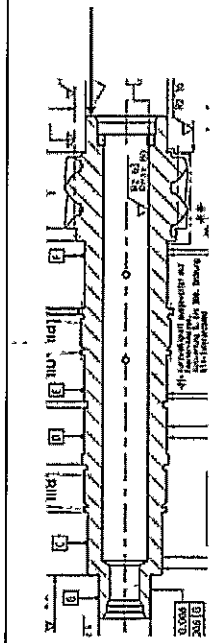
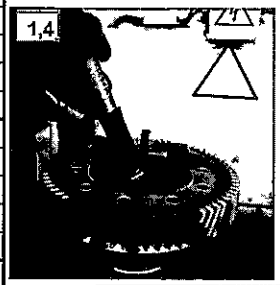
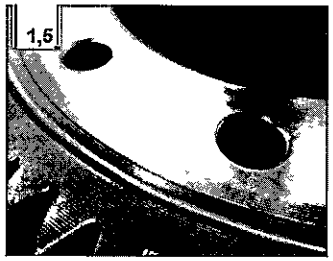
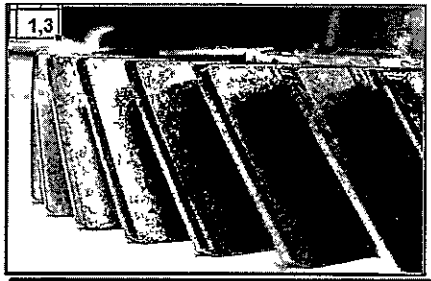
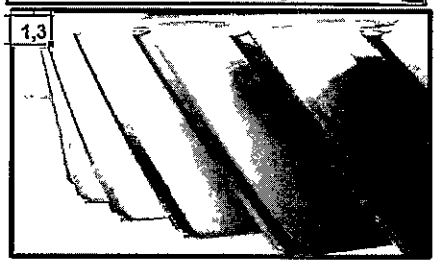


Immagine / Spiegazione





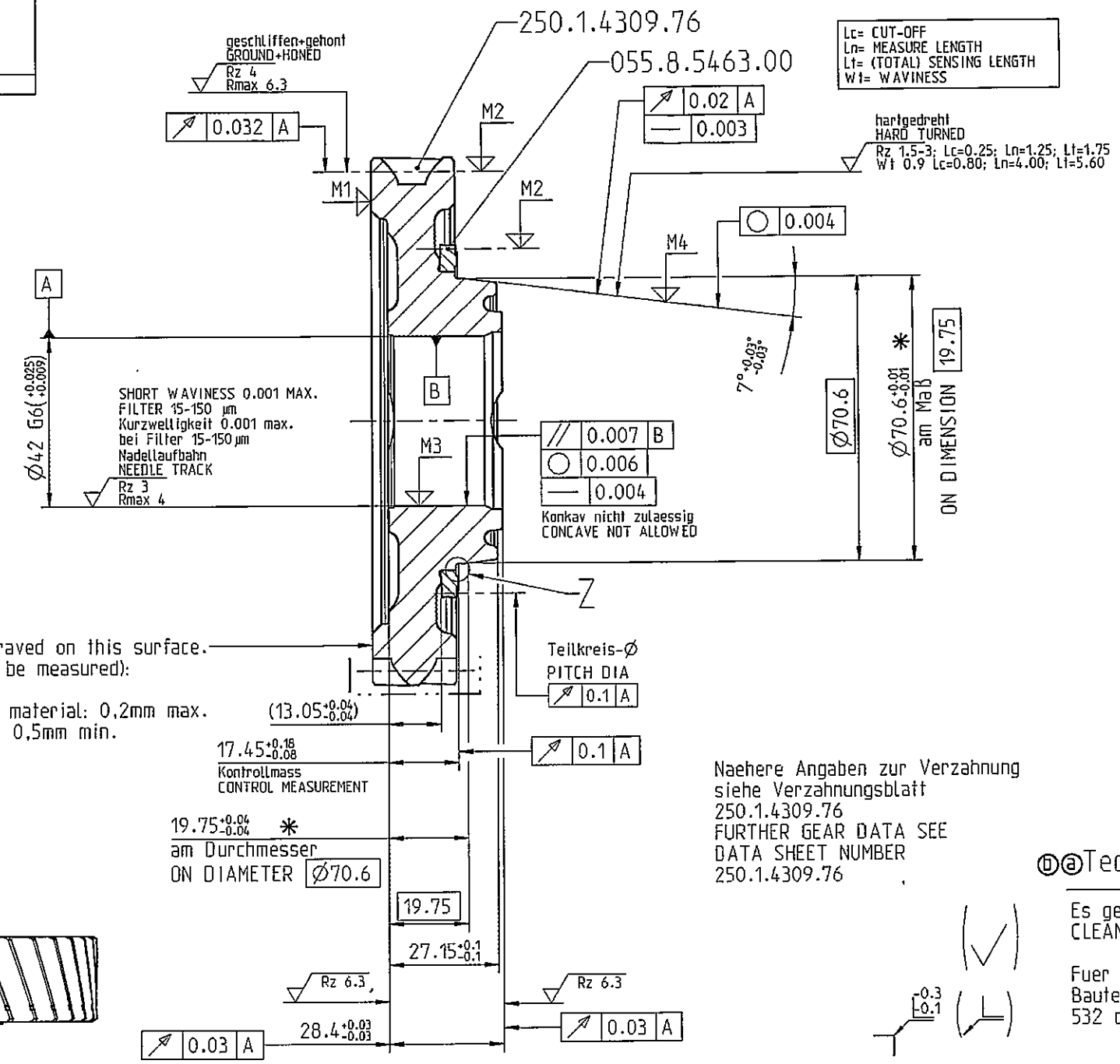




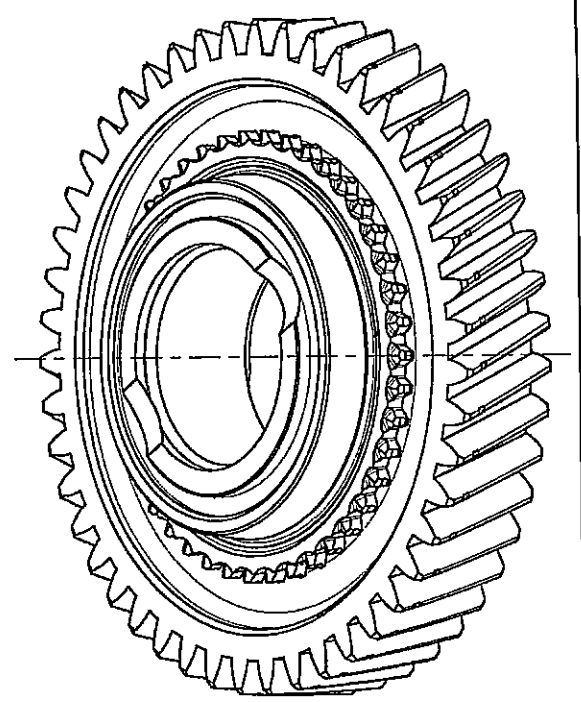
DPI necessari			00.00	00.00	00:00	Loghi					Gestione ambientale					
						Condizioni critic	Sicurezza	Controllo qualit		Costi	Ambiente					

Design Release: 2015-11-04 Agapi.Raidt
Function Release: 2015-11-04 Michael.Gierlatta
Geardata Release: not required
Material Release: not required
SAP Release: 2015-11-06 Hartmut.Kobald
Document Status: approved

Fuer Freigabeinformation freihalten! KEEP FREE FOR RELEASE INFORMATION!



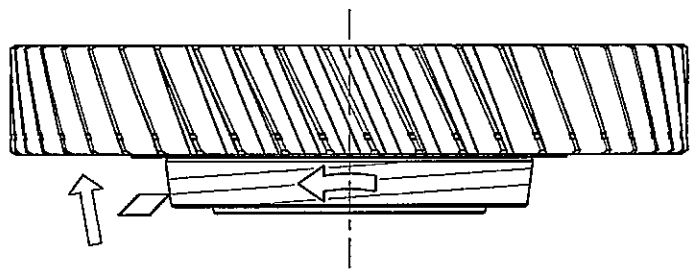
Lc= CUT-OFF
Ln= MEASURE LENGTH
Lt= (TOTAL) SENSING LENGTH
Wt= WAVINESS



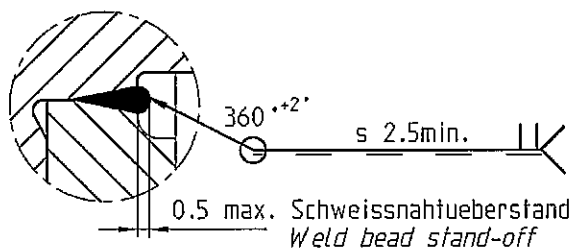
1 c

ⓒ Identification Mark "00" engraved on this surface.
Dimensions guideline (not to be measured):
- Marking depth: 0,5mm max.
- Allowed height of positive material: 0,2mm max.
- Distance from any chamfer: 0,5mm min.

ⓐ TURNING DIRECTION:



Z
unmassstaeblich
not to scale



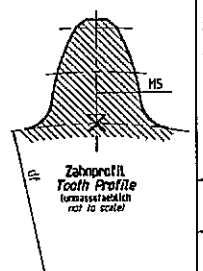
CHECKED ACCORDING ENGINEERING SPECIFICATION
S 3S7R-7M161-AA. DEVIATION FROM THIS SPECIFICATION:
LONGITUDINAL MICRO CRACKS IN THE WELDING MATERIAL ARE
PERMISSIBLE TO A TOTAL OF 2% AROUND THE CIRCUMFERENCE.

Naehere Angaben zur Verzahnung
siehe Verzahnungsblatt
250.1.4309.76
FURTHER GEAR DATA SEE
DATA SHEET NUMBER
250.1.4309.76

* wahlweise Messung
ATERNATIVE 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



kugelgestrahlt nach GN 4110
SHOT PEENED ACCORDING TO GN 4110
in diesem Bereich kugelgestrahlt nach dem Schleuderrad-Verfahren
IN THIS AREA SHOT PEENED ACCORDING TO CENTRIFUGAL WHEEL-PROCESS

Prozessfolge:
Verzahnung fraesen - haerten - strahlen - Verzahnungs-Hartbearbeitung
keine Spuren der Hartbearbeitung in der Zahnfußausrundung bzw.
im Zahnfuß zulaessig !
PROCESS SEQUENCE:
HOBBING OF TEETH - HARDENING - SHOT-PEENING - TEETH HARD MACHINING
NO MARKS OF HARD MACHINING IN THE ROOT FILLET RESPECTIVELY
ROOT PERMISSIBLE !

ⓓⓐ 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:
532 cm²

-0.3 -0.1

GCG/TS 803001	0	<M>					
	0	▽					
GN 3010	0	<M>					
	0	<C>	c	1x	2001630_HIP_1	Text: "Identification Mark "00" ..." added	20151104
	0	<A>	b	1x	36088	Technische Sauberkeit/TECHNICAL CLEANLINESS aktualisiert/UPDATED	20150914
CAD Pro/Engineer			a	2x	C000357_CP_12	Drehrichtung fuer Hartdrehen hinzu / TURNING DIRECTION FOR HARD TURNING ADDED Technische Sauberkeit / TECHNICAL CLEANLINESS aktualisiert / UPDATED Spezifikationsreifegrad F erteilt / SPECIFICATION MATURITY LEVEL F APPROVED	20150507

Massstab / SCALE: M: 1:1 (--)
Buchst. CHANGE INDEX | Anzahl NUMBER | Aend.-Nr. CHANGE REQUEST 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.

Auswerfung der Durchmessermessung erfolgt nach der Gauss-Methode (Arithmetischer Mittelwert)
EVALUATION OF THE DIAMTER 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: 1.515 kg

GETRAG
Getriebe- und Zahnradfabrik Hermann Hagenmeyer GmbH & Cie KG

Schutzvermerk nach ISO 16016 beachten
PROTECTION PER ISO 16016

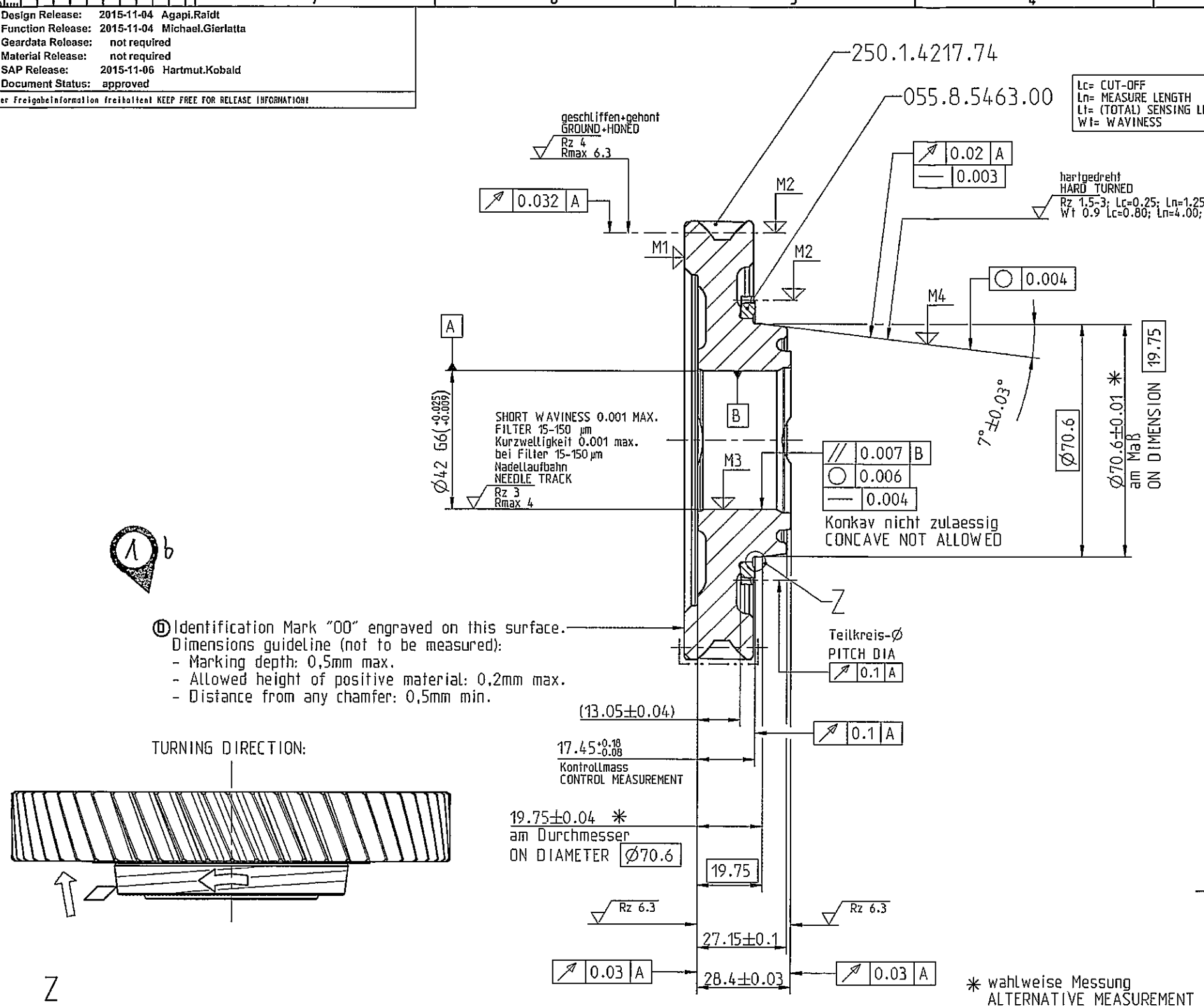
Benennung / ITEM NAME: SPEED GEAR 1ST CPL.
Schaltrad 1. Gang vst.
Artikel-Nr./ ITEM NO.: 2501437875
CAD-Modell: 2501437875
Blatt/SHEET 1 von/OF 1
Reifegrad MATURITY: F
Format SIZE: A2

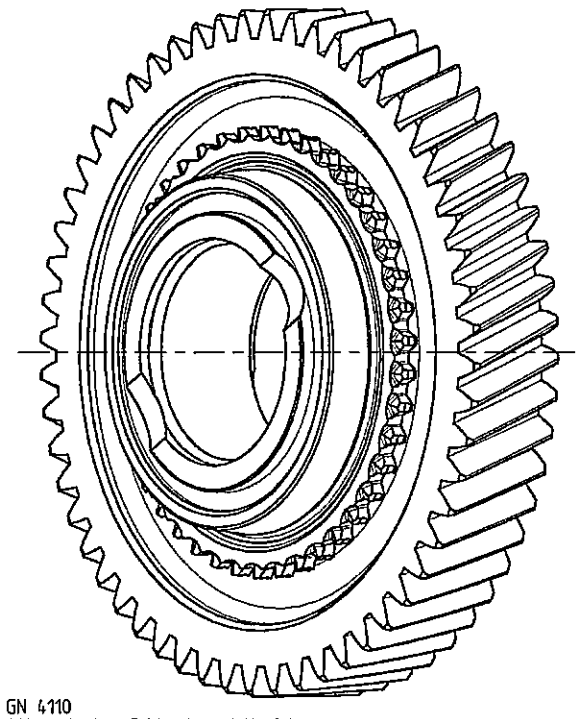
Ersatz fuer SUBSTITUTE FOR: -

INTRALINK DATA	CHECKED IN BY	CHECKED IN ON: dd.mm.yyyy hh:mm:ss	VERSION
Zchng / DRW:	Agapi.Raidt	04.11.2015 14:33:09	10
MODEL:	Agapi.Raidt	04.11.2015 14:33:09	8+

Design Release:	2015-11-04	Agapi.Raidt
Function Release:	2015-11-04	Michael.Gierlatta
Geardata Release:	not required	
Material Release:	not required	
SAP Release:	2015-11-06	Hartmut.Kobald
Document Status:	approved	

Fuer Freigabeinformation freihalten! KEEP FREE FOR RELEASE INFORMATION!





kugelgestrahlt nach GN 4110
SHOT PEENED ACCORDING TO GN 4110
in diesem Bereich kugelgestrahlt nach dem Schleuderrad-Verfahren
IN THIS AREA SHOT PEENED ACCORDING TO CENTRIFUGAL WHEEL-PROCESS

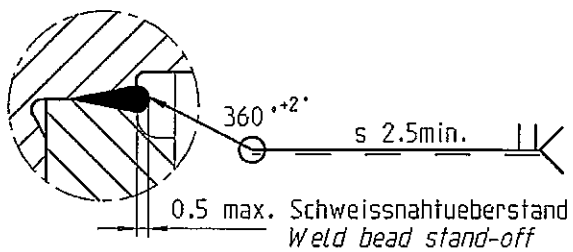
Prozessfolge:
Verzahnung fraesen - haerten - strahlen - Verzahnungs-Hartbearbeitung
keine Spuren der Hartbearbeitung in der Zahnfußausrundung bzw.
im Zahnfuß zulaessig !
PROCESS SEQUENCE:
HOBBING OF TEETH - HARDENING - SHOT-PEENING - TEETH HARD MACHINING
NO MARKS OF HARD MACHINING IN THE ROOT FILLET RESPECTIVELY
ROOT PERMISSIBLE !

ⓑ Identification Mark "00" engraved on this surface.
Dimensions guideline (not to be measured):
- Marking depth: 0,5mm max.
- Allowed height of positive material: 0,2mm max.
- Distance from any chamfer: 0,5mm min.

TURNING DIRECTION:

Z
unmassstaeblich
not to scale

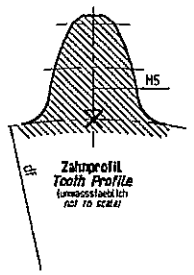
* wahlweise Messung
ALTERNATIVE MEASUREMENT



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



ⓐ 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:
541 cm²

-0.3 -0.1

Naehere Angaben zur Verzahnung
siehe Verzahnungsblatt
250.1.4217.74
FURTHER GEAR DATA SEE
DATA SHEET NUMBER
250.1.4217.74

GCG/TS 803001	0	<M>						
	0	▽						
GN 3010	0	<M>						
	0	<C>						
	0	<A>	b	1x	2001630_M1P_1	Text: "Identification Mark "00" ..." added		20151104
CAD Pro/Engineer			a	1x	36088	Technische Sauberkeit/TECHNICAL CLEANLINESS aktualisiert/UPDATED		20150914
			---	---	2000357_CP_12	Spezifikationsreifegrad F erteilt / SPECIFICATION MATURITY LEVEL F APPROVED		20150507

Massstab / SCALE M: 1:1 (--)	Buchst. CHANGE INDEX	Anzahl NUMBER	Aend.-Nr. CHANGE REQUEST 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 DIAMTER 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 1.629 kg

GETRAG
Getriebe- und Zahnradfabrik Hermann Hagenmeyer GmbH & Cie KG

Schutzvermerk nach ISO 16016 beachten
PROTECTION PER ISO 16016

Benennung / ITEM NAME: SPEED GEAR 1ST CPL.
Schaltrad 1. Gang vst.

Artikel-Nr./ ITEM NO.: 2501438075
CAD-Modell: 2501438075

Blatt/SHEET 1 von/OF 1 | Reifegrad MATURITY: F | 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	04.11.2015 14:31:33	5
MODEL:	Agapi.Raidt	04.11.2015 14:31:33	5+