

Part Name INPUT SHAFT OUTER		Customer Part Number 250.6.4312.35	
Shown on Drawing No. 250.6.4312.35		Organization Part # _____	
Engineering Change Level 3 Index (f)		Dated 22-ott-14	
Additional Engineering Changes _____		Dated _____	
Safety and/or Government Regulation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Purchase Order No. _____	
		Weight (kg) 1,511	
Checking Aid No. _____		Checking Aid Engineering Change Level _____	
		Dated _____	
ORGANIZATION MANUFACTURING INFORMATION		CUSTOMER SUBMITTAL INFORMATION	
GETRAG MODUGNO		Renault	
Organization Name & Supplier/Vendor Code _____		Customer Name/Division _____	
VIA DEI CICLAMINI N°4		Renault	
Street Address _____		Buyer/Buyer Code _____	
MODUGNO BARI 70026 ITALY		TYP 250	
City	Region	Postal Code	Country
MODUGNO	BARI	70026	ITALY
MATERIALS REPORTING			
Has customer-required Substances of Concern information been reported? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> n/a			
Submitted by IMDS or other customer format: _____			
Are polymeric parts identified with appropriate ISO marking codes? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> n/a			
REASON FOR SUBMISSION (Check at least one)			
<input type="checkbox"/> Initial Submission	<input type="checkbox"/> Change to Optional Construction or Material		
<input checked="" type="checkbox"/> Engineering Change(s)	<input type="checkbox"/> Supplier or Material Source Change		
<input type="checkbox"/> Tooling: Transfer, Replacement, Refurbishment, or additional	<input type="checkbox"/> Change in Part Processing		
<input type="checkbox"/> Correction of Discrepancy	<input type="checkbox"/> Parts Produced at Additional Location		
<input type="checkbox"/> Tooling Inactive > than 1 year	<input checked="" type="checkbox"/> Other - please specify below		
REQUESTED SUBMISSION LEVEL (Check one)			
<input type="checkbox"/> Level 1 - Warrant only (and for designated appearance items, an Appearance Approval Report) submitted to customer.			
<input type="checkbox"/> Level 2 - Warrant with product samples and limited supporting data submitted to customer.			
<input checked="" type="checkbox"/> Level 3 - Warrant with product samples and complete supporting data submitted to customer.			
<input type="checkbox"/> Level 4 - Warrant and other requirements as defined by customer.			
<input type="checkbox"/> Level 5 - Warrant with product samples and complete supporting data reviewed at organization's manufacturing location.			
SUBMISSION RESULTS			
The results for <input checked="" type="checkbox"/> dimensional measurements <input checked="" type="checkbox"/> material and functional tests <input type="checkbox"/> appearance criteria <input checked="" type="checkbox"/> statistical process package			
These results meet all drawing and specification requirements: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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 <u>2000</u> / <u>24</u> 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: ripetizione per smarrimento documentazione precedente			
Is each Customer Tool properly tagged and numbered? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> n/a			
Organization Authorized Signature _____		Date <u>20/01/2015</u>	
Print Name Dario Tursi	Phone No. cell +39-393-9814554	Fax No. _____	
Title GPS 2 Leader	E-mail dario.tursi@getrag.com		
FOR CUSTOMER USE ONLY (IF APPLICABLE)			
Part Warrant Disposition: <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Rejected <input type="checkbox"/> Other			
Customer Signature _____		Date <u>20/01/15</u>	
Print Name _____		Customer Tracking Number (optional) _____	

DIMENSIONAL TEST RESULTS

Organization: GETRAG Supplier/Vendor Code: GETRAG Modugno	Part Number: 250 6 4312 35 Part Name: INPUT 2
INSPECTION FACILITY: NA	Design Record Change Level: 3 Index (f) 22/10/2014 Engineering Change Documents:

Organization Measurement Results (Data)

Item	Dimension/Specification	Specification / Limits		Test Date	Qty. Tested	Organization Measurement Results (Data)					Test distruttivo	Ok	Not Ok
						1	2	3	4	5			
1	Distanza 84,8 ± 0,1	84,6	84,8		5			rif. 3651				ok	
2	Distanza 70,95 ± 0,1	70,85	71,05		5			rif. 3651				ok	
3	Distanza 64,2 ± 0,2	64,00	64,40		5			rif. 3651				ok	
4	Distanza 76.63 ± 0,25	76,4	76,9		5			rif. 3651				ok	
5	Distanza 7 ± 0,3	6,7	7,3		5			rif. 3651				ok	
6	Distanza 12 ± 0,2	12	12,2		5			rif. 3651				ok	
7	Distanza 88.6 ± 0,2	88,400	88,800		5			rif. 3651				ok	
8	Distanza 72 ± 0,3	72	72,3		5			rif. 4231				ok	
9	Distanza 96.9 ± 0,5	96,4	97,4		5			rif. 4231				ok	
10	Distanza 34,7 + 0,5	34,2	35,2		5			rif. 4231				ok	
11	Distanza 42,1 ± 0,2	41,9	42,3		5			rif. 4231				ok	
12	Distanza 51,0 ± 0,2	50,8	51,2		5			rif. 4231				ok	
13	Distanza 163.3 ± 0,5	162,800	163,800		5			rif. 4231				ok	
14	Distanza 47 ± 0,3	46,7	47,3		5			rif. 3651				ok	
15	Distanza 33,3 - 0,5	118,9	119,18		5			rif. 4231				ok	
17	MDK dentatura I	100,472	100,553		5			rif. 4231				ok	
18	MDK dentatura II	49,643	49,712		5			rif. 4231				ok	
19	\sqrt{R} 0,032 A - B	-	32μ		5			rif. 4231				ok	
20	\sqrt{R} 0,028 A - B	-	28μ		5			rif. 4231				ok	
21	Rz 4	-	4,0μ		5			rif. 3651				ok	
	Rmax 8	-	8,0μ		5			rif. 3651				ok	
22	Rz 4	-	4,0μ		5			rif. 4231				ok	
	Rmax 8	-	8,0μ		5			rif. 4231				ok	
23	Tip Diameter 100,5 -0,20 Z 52	100,3	100,5		5			rif. 4231				ok	
24	Root Diameter 90,2 -0,40 Z 52	88,8	90,2		5			rif. 4231				ok	
25	Tip Diameter 51,6 -0,26 Z 21	51,34	51,6		5			rif. 3651				ok	
26	Root Diameter 40,3 -0,45 Z 21	39,85	40,3		5			rif. 3651				ok	
27	\sqrt{R} 0,040 A - B	-	40μ		5			rif. 3880				ok	

Tooth microgeometry validated by standard measurement report

SIGNATURE

TITLE

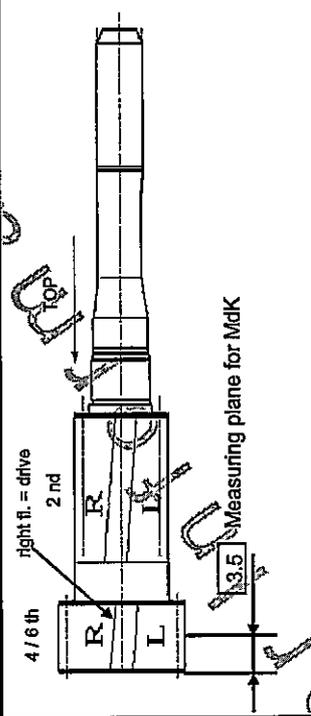
DATE

G. Cicirelli

QPE

16/01/2015

STIRNRAD		Toleranzen der Verzahnung (DIN 3961 vom Aug. 1978)				(8)	
GEAR		gültig für Werte am Einzelzahn				Tolerances of gearing (DIN 3961 of Aug. 1978)	
valid for values at individual tooth		linke Fl.	rechte Fl.	linke Fl.	rechte Fl.		
Zähnezahl	52	linke Fl.	rechte Fl.	linke Fl.	rechte Fl.		
Modul	1.600000	Profile-Formabweichung	f_{fa}	Eintrittsteilungs-Abweich.	f_{po}		
Eingriffswinkel	17° 30' 0"	Profile-Gesamtabweichung	F_a	Normal pitch error		0.014	
Schrägungswinkel	29° 0' 0"	Total profile error		Teilungs-Einzelabweichung	f_p	0.014	
Steigungsrichtung	RIGHT	Profile-Winkelabweichung	$f_{H\alpha}$	Adjacent pitch error			
Profilverchiebungsfaktor	0.200	Flanken-Winkelabweichung	$f_{H\beta}$	Teilungssprung	f_g	0.018	
Addendum modifikation coef.		Flanken-Gesamtabweichung	F_{β}	Diff. bet. adjacent pitches			
Teilkreisdurchmesser	95.127	Flanken-Formabweichung	f_p	Teilungs-Summenabweich.	F_{pk}		
Kopfkreisradius	100.50 -0.20	Flanken-Gesamtabweichung	F_{β}	Cumulative circ. pitch error			
Kopfnutzkreisrad. theo. max. d_{ka}	100.05	Flanken-Formabweichung	f_p	Rundlaufabweichung	F_r	0.032	
Tip diam. usable theo.	99.67	Flanken-Gesamtabweichung	F_{β}	Radial run-out			
Tip diam. usable theo.	99.67	Flanken-Formabweichung	f_p	Zahndickenschwankung	R_s		
Fußkreisdurchmesser	90.20 -0.40	Flanken-Gesamtabweichung	F_{β}	Range of tooth thckn. error			
Root diameter	92.34	Flanken-Formabweichung	f_p	Zweifl.-Wälzabweichung	F_{β}	0.040	
Fußnutzkreisradius	44.745	Flanken-Gesamtabweichung	F_{β}	Radial composite error			
Grundkreisradius	89.490	Flanken-Formabweichung	f_p	Zweifl.-Wälzabweichung	F_{β}	0.016	
Base diameter	2.715	Flanken-Gesamtabweichung	F_{β}	Radial tooth to tooth comp. err.			
Normalzahnweite	2.685	Flanken-Formabweichung	f_p	Meßkreis-Krümmungsradius p_m			
Normalzahnweite	8	Flanken-Gesamtabweichung	F_{β}	Radius of curvature meas. diam.		15.21	
Meßzahnweite	37.297	Flanken-Formabweichung	f_p				
Normalzahnweite	37.269	Flanken-Gesamtabweichung	F_{β}				
Meßzahnweite	3.000	Flanken-Formabweichung	f_p				
Normalzahnweite	100.553	Flanken-Gesamtabweichung	F_{β}				
Meßzahnweite	100.472	Flanken-Formabweichung	f_p				
Normalzahnweite		Flanken-Gesamtabweichung	F_{β}				
Meßzahnweite		Flanken-Formabweichung	f_p				
Normalzahnweite		Flanken-Gesamtabweichung	F_{β}				
Meßzahnweite		Flanken-Formabweichung	f_p				



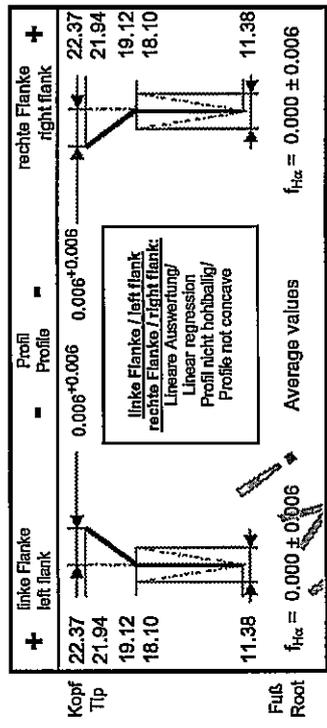
Flankendurchmesser = 91.65 -0.30 ± 9.89 honing diameter

- # Der Verlauf der Profil- und Flankenlinie muss über den Messbereich stetig sein (einh. oder mehrfache Richtungsänderungen sind nicht zulässig)
- # The form of the profile and helix has to be continuous (one or more changes of directions are not allowed)

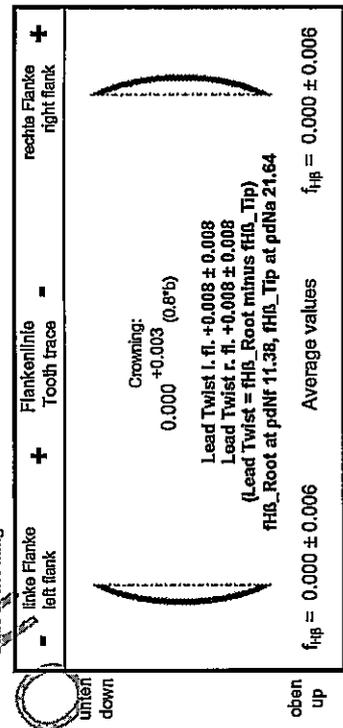
Für f_p max. zwei Wellen zulässig
For f_p max. two waves allowed

Vorbereitungsdaten siehe Verzahnungsblatt Vorbearbeitung gleicher Nr.
For pre-machining dimensions, see gear data sheet same number

Witz-Profil siehe Werkzeugdatenblatt Nr. 250.6.4312.35
For Tooth profile, see tool data sheet number



Schneidbeginn
Start of cutting
 $\varnothing = 91.65 -0.30 \pm 9.89$



* fix (zwischen dNf und dem Schneidbeginn ds) max fix/2, jedoch 0.003 zulässig
* fix (between dNf and start of cutting ds) max fix/2, 0.003 allowable.

Profil- und Flankenlinienprüfung nach VDI/VDE 2612
Tabellenwerte für f_p und $f_{H\beta}$ sind auf die gesamte Radbreite im Meßkreis d_m bezogen
Flankenlinienprüfbereich $L_{\beta} = 0.8 \cdot b$ hochgerechnet auf $1.0 \cdot b$
Begriffe für Stirnräder nach DIN 888, 3960, 3988

Profil- und helix checking according to VDI/VDE 2612
Listed tolerance data for f_p and $f_{H\beta}$ refers to the total face width in the meas. dia. d_m
Tooth trace testing area $L_{\beta} = 0.8 \cdot b$ refers to $1.0 \cdot b$
Terms of the tooth system according to DIN (German Industrial Standards) No. 888, 3960, 3988

Verteiler:		Schutzvermerk nach ISO 16010 beachten Protection per ISO 16010	
Erstverwendung bei Getriebeart:		250	
Buch.	Anz.	Änd.Nr.	Name
Abbildungen sind unmaßstäblich. Diagrams not to scale.			
Datum		2012-07-04	
Name		Verzahnungsblatt Endkontrolle	
gepr.		Final Check Gear Data	
Benennung:		Input Shaft Outer 4 / 6 th	
Nennung:		250.6.4312.35	
Zeichnungsnummer:		250.6.4312.35	
Drawing number:		250.6.4312.35	

