

312297

REPORT 14/066

Date: 29/04/2014
Author: Giovanni Borracci

Reason for analysis: PPAP Edison

Requester: GPS1 - Russo Giacomo

Part Name: SG1
P/N: 250.1.5188.75
State of parts: Finished

Material: GCG_805000_Part 2
Customer:

Result: OK

Distribution List: GPS1 - G. Russo
GPS1 - R. Malerba
ME - G. Cacciapaglia

Notes:

Surface Hardness Verification

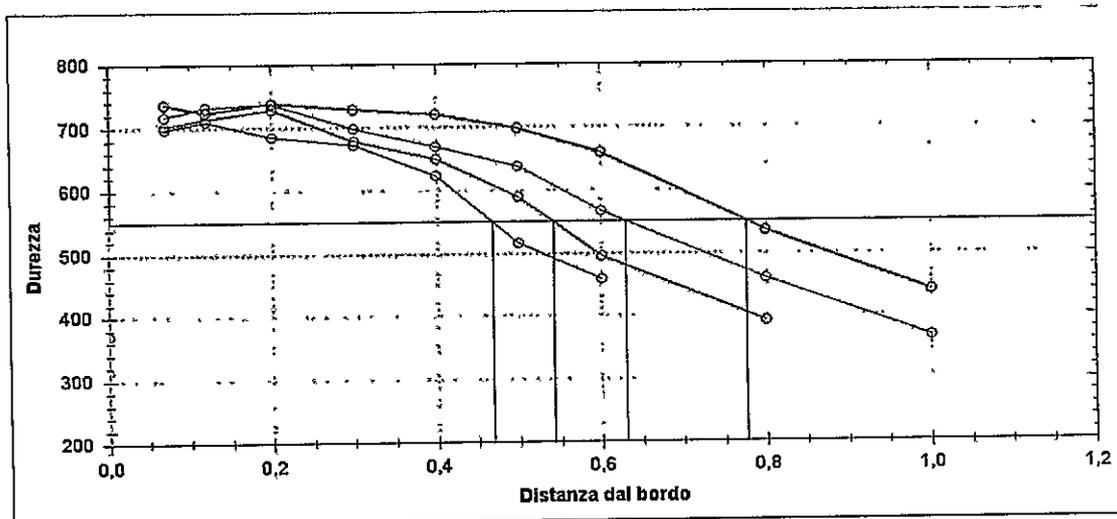
Scale	Position	Values [mm]	Range
HRA	M1	81,2	80,5 + 2,5
HRC	M1	61,2	60 + 3

Core Hardness Verification

Sample	Scale	Position	Values [HV10]	Range
1365/14	HV10	M6	317	≥ 300
1365/14	HV10	M7	370	≥ 280

CHD Verification

Sample	Scale	Position	Values [mm]	Range
1365/14	CHD 550 HV1	M2	0,63	0,5 + 0,4 mm
1365/14	CHD 550 HV1	M3a	0,78	0,5 + 0,4 mm
1365/14	CHD 550 HV1	M3b	0,47	min. 0,3 mm
1365/14	CHD 550 HV1	M4	0,54	0,4 + 0,4 mm



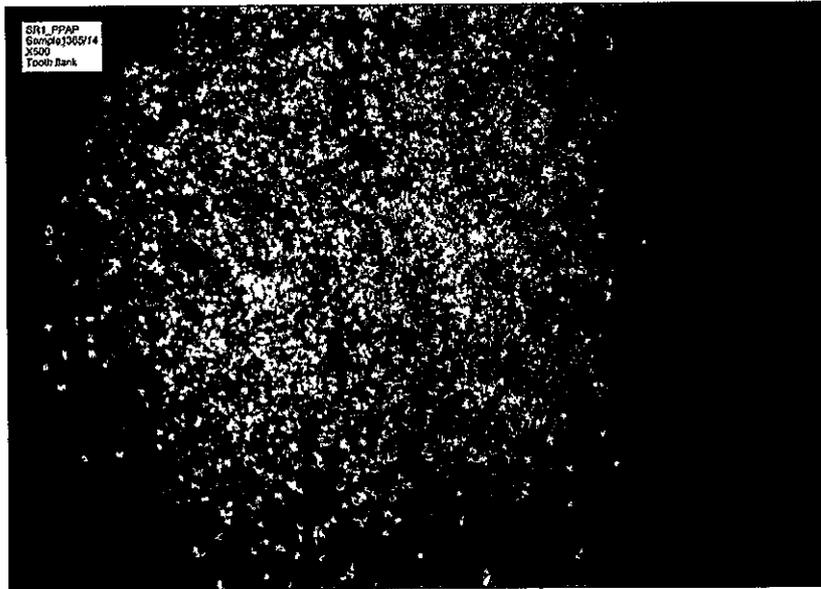
Picture 1: gear - Hardness profiles

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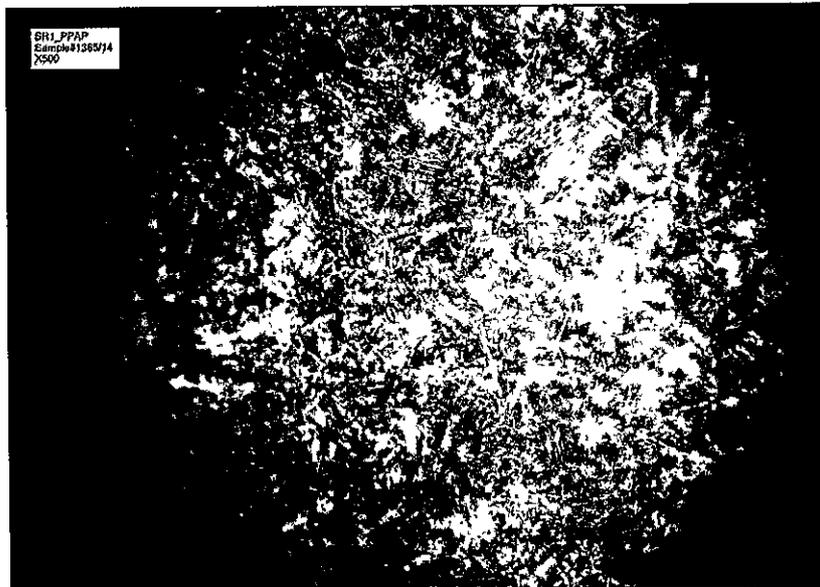
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Metallographic Analysis

Sample # 1365/14	SR1
Gear - Tooth flank surface structure:	Martensite + 5% retained austenite (OK)
Gear - Tooth base core structure:	Martensite + bainite (OK)

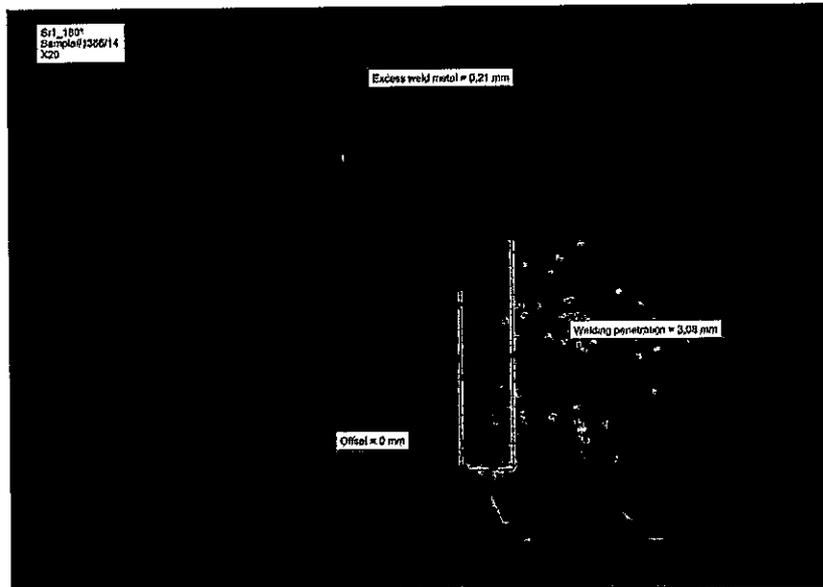


Picture 2: Surface microstructure at tooth flank (X500)



Picture 3: Core microstructure at tooth base (X500)

Welded Joint Analysis



Picture 4: Welding penetration and offset OK (magnification 20x)