313037

# LABORATORY REPORT
GETRAG S.p.A. - B/WLQ 2

GETRAG

## REPORT 14/065

Date: 29/04/2014
Author: Francesco Abbaticchio

| | |
|---|---|
| Reason for analysis: | PPAP |

| | |
|---|---|
| Requester: | GPS1 - G. Russo |

| | |
|---|---|
| Part Name: | Ring Gear |
| P/N: | 250.1.5187.75 |
| State of parts: | Finished |

| | |
|---|---|
| Material: | GCG_805000_Part 2 |
| Customer: | EDISON |

| | |
|---|---|
| Result: | OK |

| | |
|---|---|
| Distribution List: | GPS1 - G. Russo<br>ME - G. Cacciapaglia |

| | |
|---|---|
| Notes: | |

### *Surface Hardness Verification*

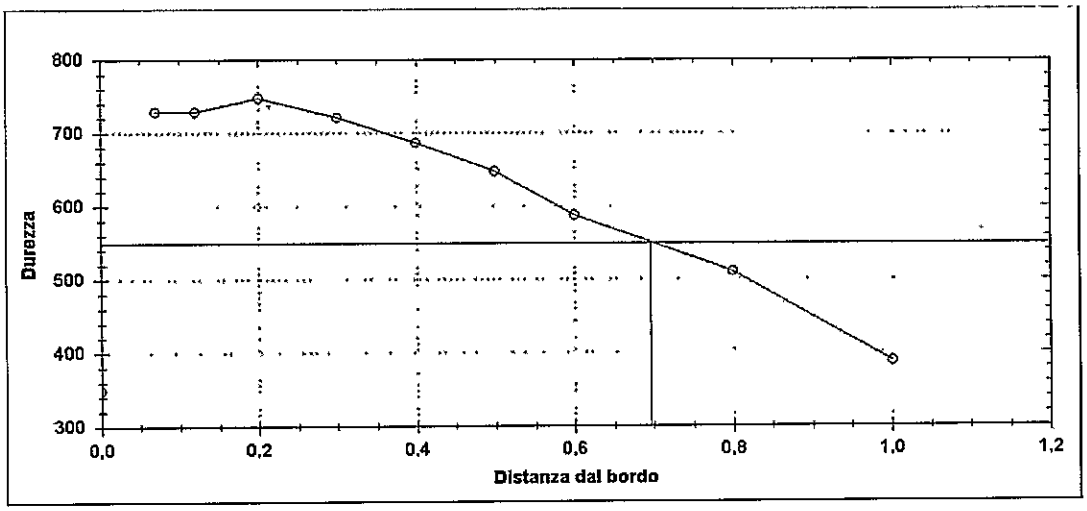
| Scale | Position | Values [mm] | Range | Component |
|---|---|---|---|---|
| HRC | M1 | 60,6 | - | Gear |
| HRA | M1 | 81,6 | 80.5 + 2.5 | Gear |

### *Core Hardness Verification*

| Sample | Scale | Position | Value | Range | Component |
|---|---|---|---|---|---|
| 1355/14 | HV10 | M3 | 349 | ≥ 300 | Gear |

### *CHD Verification*

| Sample | Scale | Position | Values [mm] | Range | Component |
|---|---|---|---|---|---|
| 1355/14 | CHD 550 HV1 | M2 | 0,70 | 0.5 + 0.4 mm | Gear |




Picture 1: hardness profiles

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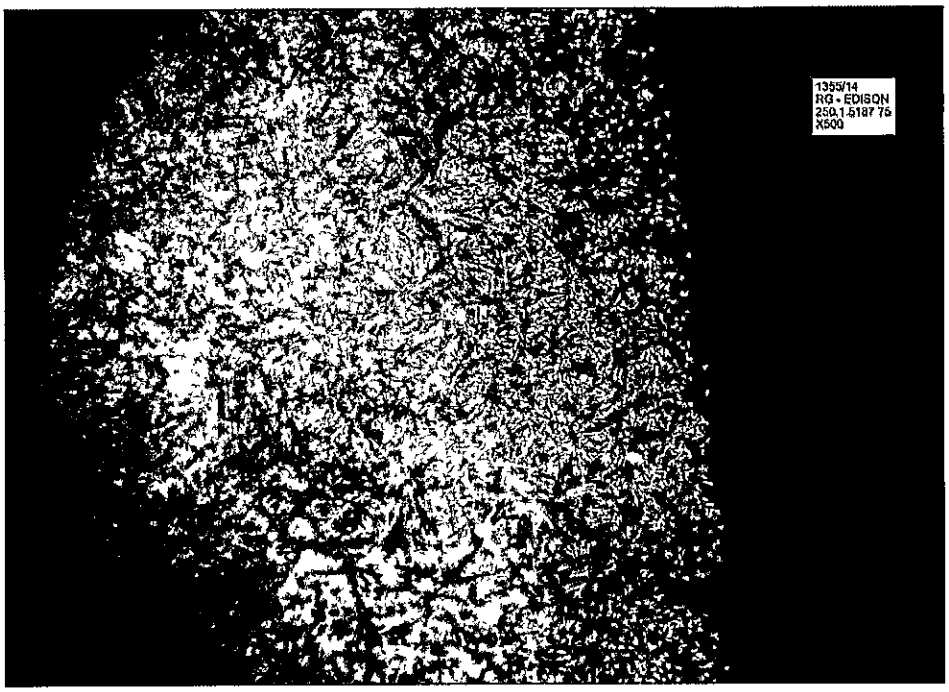
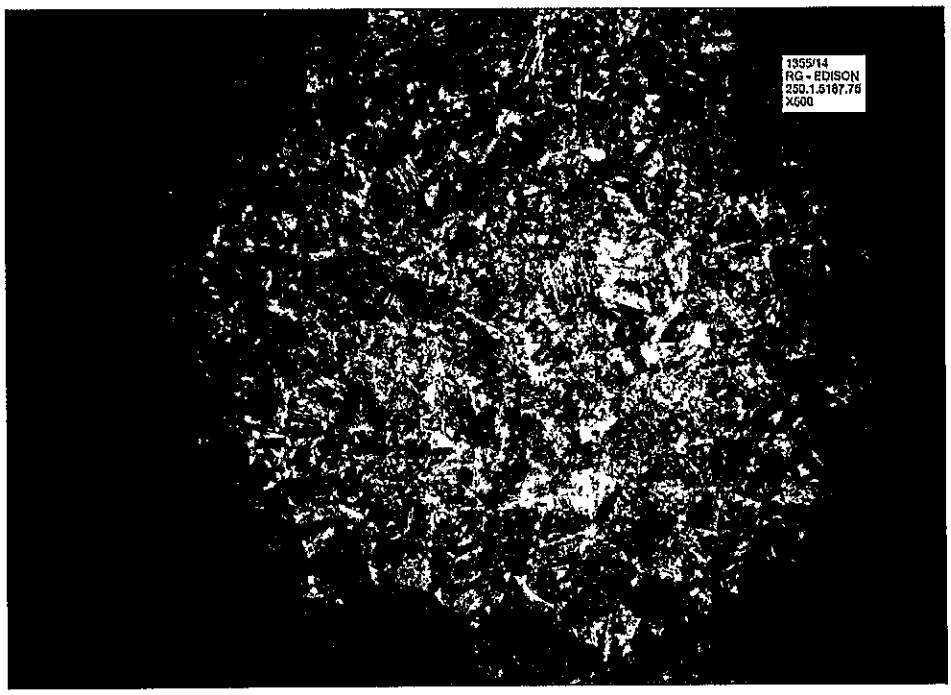
***Metallographic Analysis***

| | |
|---|---|
| **Sample #** | 1355/14 |
| 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**




**Picture 3: Surface microstructure at tooth root**