

Lab Report no. 16_014

SAP-no Polytron Oil Trial	Part-name -
Customer -	Drawing-no -
Material -	Casting-no -
Production order-no Roller 1	

1. Reason of the investigation

To check the effect polytron oil on wear pattern on

2. Description of the investigation

Metallographic evaluation at different locations after using different oils and additives

Location On Roller 1	Description
Location 1	By using Mineral Oil(Shell remula)
Location 2	By Using Mineral Oil (Mobil Oil)
Location 3	By using mixture of water + dust + mineral oil
Location 4	By using Mineral Oil + Polytron oil
Location 5	By using Mobil oil + Polytron oil
Location 6	By using Polytron oil

3. Result

Metallographic evaluation:

Location On Roller 1	Description	Fig	Results
Location 1	By using Mineral Oil(Shell remula)	fig.1	wear width: 4505 μ , HAZ: 934 μ
Location 2	By Using Mineral Oil (Mobil Oil)	fig.2	wear width: 4391 μ , HAZ: 877 μ
Location 3	By using mixture of water + dust + mineral oil	fig.3	wear width: 3079 μ , HAZ: 203 μ
Location 4	By using Mineral Oil + Polytron oil	fig.4	wear width: 2653 μ , HAZ: 200 μ
Location 5	By using Mobil oil + Polytron oil	fig.5	wear width: 2165 μ , HAZ: 163 μ
Location 6	By using Polytron oil	fig.6	wear width: 1616 μ , HAZ: 117 μ

Hardness of roller surface: 60-62 HRC

4. Summary

Study shows that by using polytron oil, material wear can be reduced with reducing heat affected zone near to wear area.

Order:	Pa/MMA	Classification:	Internal/Intern
Distribution list:	Ro/QM, Kup/QML		

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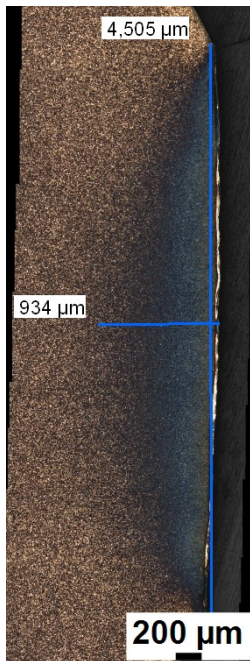


image: QML2016_000903

fig.: 1

comment:

Roller 1 Location 1

Wear width: 4505μ

Heat affected zone: 934 μ

magnification 50X

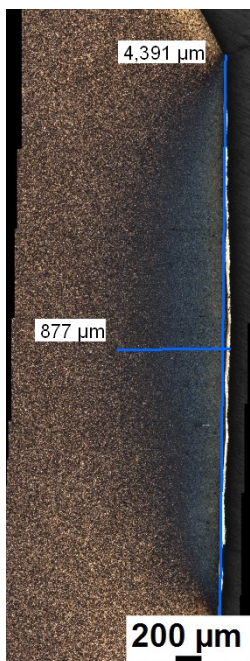


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fig.: 2

comment:

Roller 1 Location 2

wear width: 4391μ

Heat affected zone: 877 μ

magnification 50X

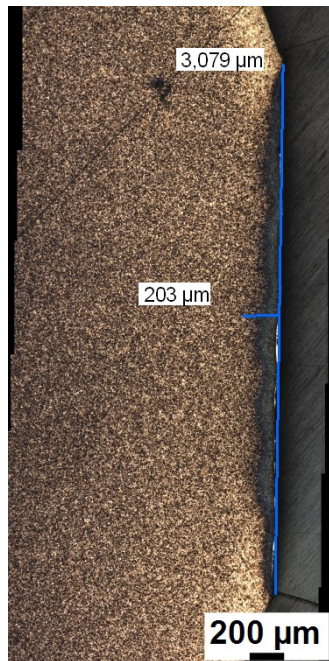


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fig.: 3

comment:

Roller 1 Location 3

wear width: 3079μ

Heat affected zone: 203 μ

magnification 50X

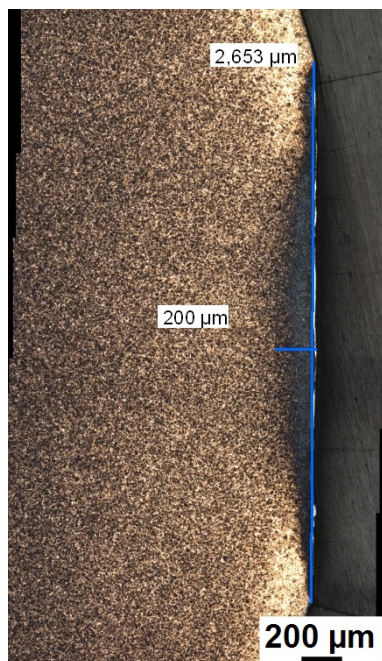


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fig.: 4

comment:

Roller 1 Location 4

wear width: 2653μ

Heat affected zone: 200μ

magnification 50X

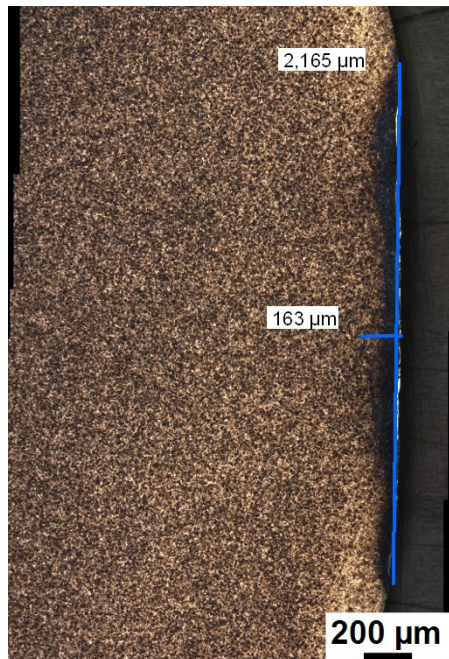


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fig.: 5

comment:

Roller 1 Location 5

wear width: 2165μ

Heat affected zone: 163μ

magnification 50X

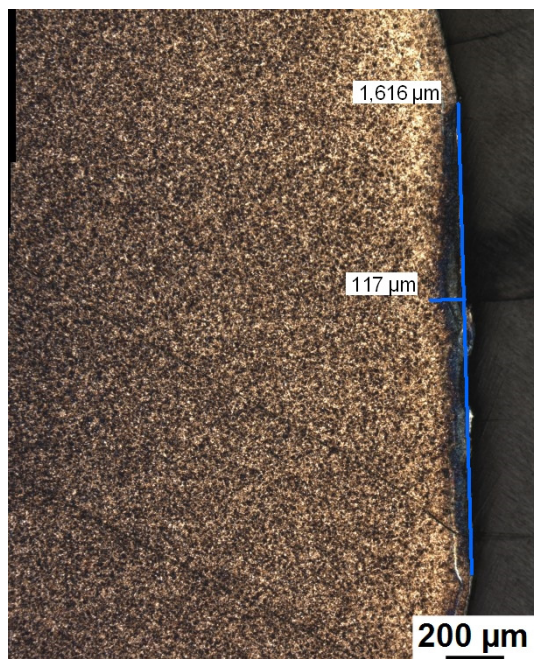


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fig.: 6

comment:

Roller 1 Location 6

wear width: 1616μ

Heat affected zone: 117μ

magnification 50X