



FIELD INSTRUMENTATION SYSTEM SERVICES





Over the past 135 years, we have been manufacturing innovative abrasive products and providing cutting-edge solutions for rough and precision grinding industries. This experience of over a century has shaped our offerings to be more holistic. Apart from the comprehensive line of abrasive products, we now provide Abrasive Services, crucial for machine maintenance and seamless production.

FIELD INSTRUMENTATION SYSTEM

We at Norton, provide grinding cycle monitoring services through our Field Instrumentation System (FIS) device to enhance grinding operation performance. Grinding processes are highly sensitive to the operational parameters or any changes in the input conditions. Anything that is changed in the input condition gets reflected in the component quality post grinding. This is where typically FIS comes into effect and helps one to understand what's exactly happening in the grinding zone by measuring the grinding wheel spindle power or current. Based on the data it captures, power vs time graphs are plotted and analyzed to take corrective measures to optimize the grinding process.

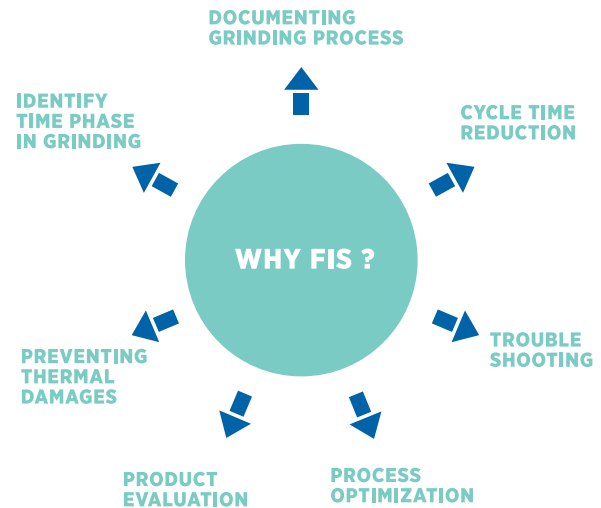
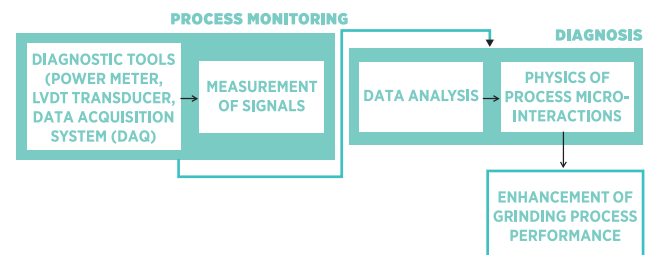


FIGURE BELOW:
A schematic representation of grinding process monitored with diagnostic tool



OFFERINGS

FIELD INSTRUMENTATION SYSTEM

The FIS unit of Norton empowers you to efficiently monitor the performance of grinding operation & provides you with insights to optimize your grinding process for improved operating performance, wheel life, work quality, power drawn & cycle time.

ADVANTAGES

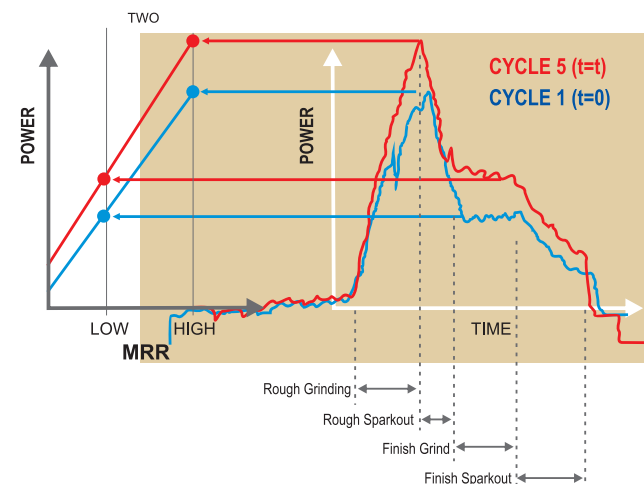
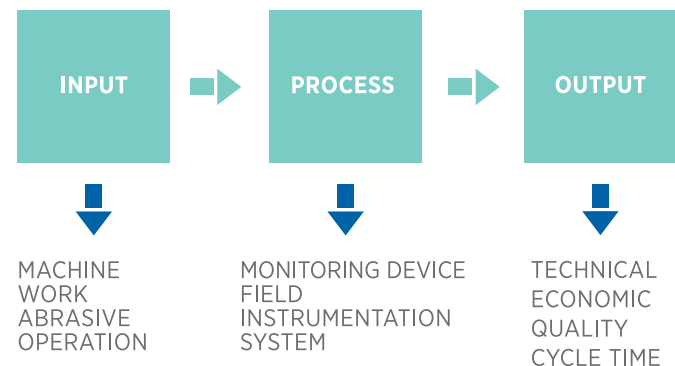
GRINDING PROCESS

- Gives an overall idea of grinding cycle
- Helps in comparing the time lag at each feed rate
- Slide error can be checked by analyzing the feed rates
- Gives a better visual & numeric aspect to the grinding process

PROCESS OPTIMIZATION

- Monitoring operational efficiency of machine
- Baseline data can be used for reference in future to compare if problem occurs
- Power comparison gives an idea on machine utilization

FIS GRINDING CYCLE:



CASE STUDIES

1. CYCLE TIME REDUCTION

Application:

Plunge OD Grinding

Component:

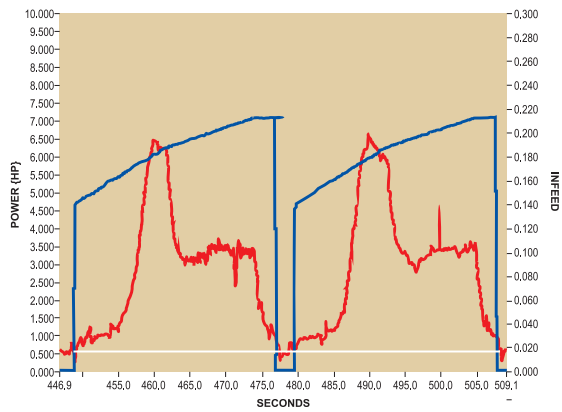
Transmission shaft

Objective:

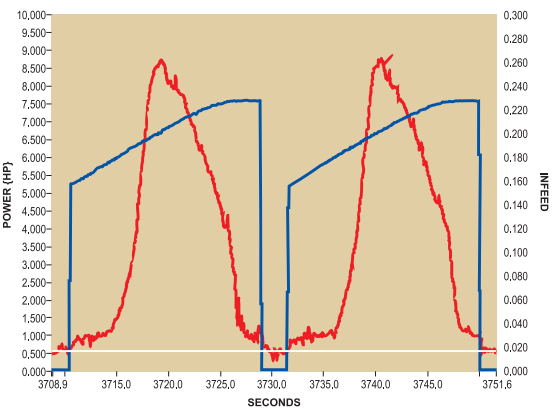
Cycle modification for rough 2 feed

Result:

Cycle time reduction by 10 sec



BEFORE



AFTER

2. TROUBLE SHOOTING

Application:

Angular Plunge Grinding

Component:

Transmission shaft

Problem:

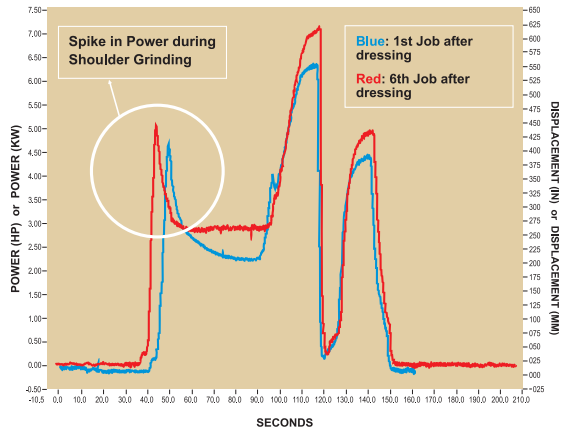
Random chatter

Root Cause:

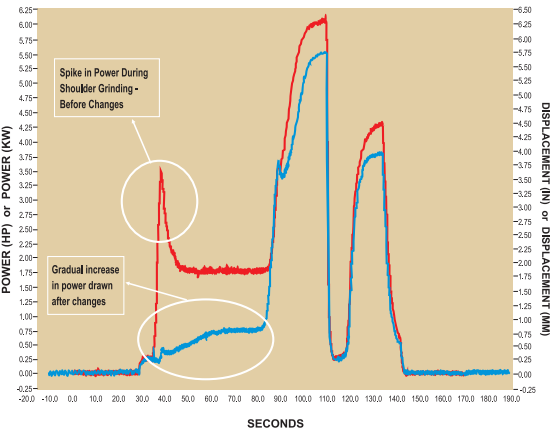
Touch point feed rate and position

Result:

Corrected touch point feed rate and position to have smooth connect of wheel & work



BEFORE



AFTER

CASE STUDIES

3. PROCESS OPTIMIZATION

Application:

Plunge centerless grinding

Component:

Automotive drive shaft

Objective:

Modify grinding cycle for reduction in grinding time

Result:

Cycle time reduction by 4 Sec

4. PRODUCT BENCHMARKING

Application:

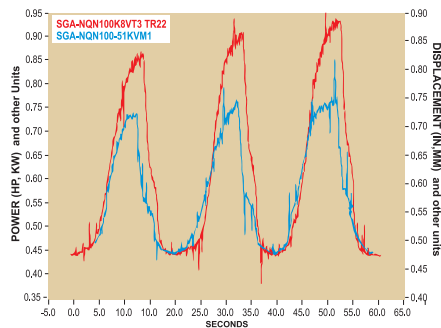
Internal grinding

Objective:

New product benchmarking for power drawn study and cycle time optimization

Result:

Correct product selection for the application requirement





GRINDWELL NORTON LTD.

5th Level, Leela Business Park, Andheri-Kurla Road, Marol,
Andheri (East), Mumbai - 400 059. Maharashtra.

Help us serve you better - Call us on: 1800 3000 8199

Write to us at: norton.abrasives@saint-gobain.com

www.nortonabrasives.com/en-in

