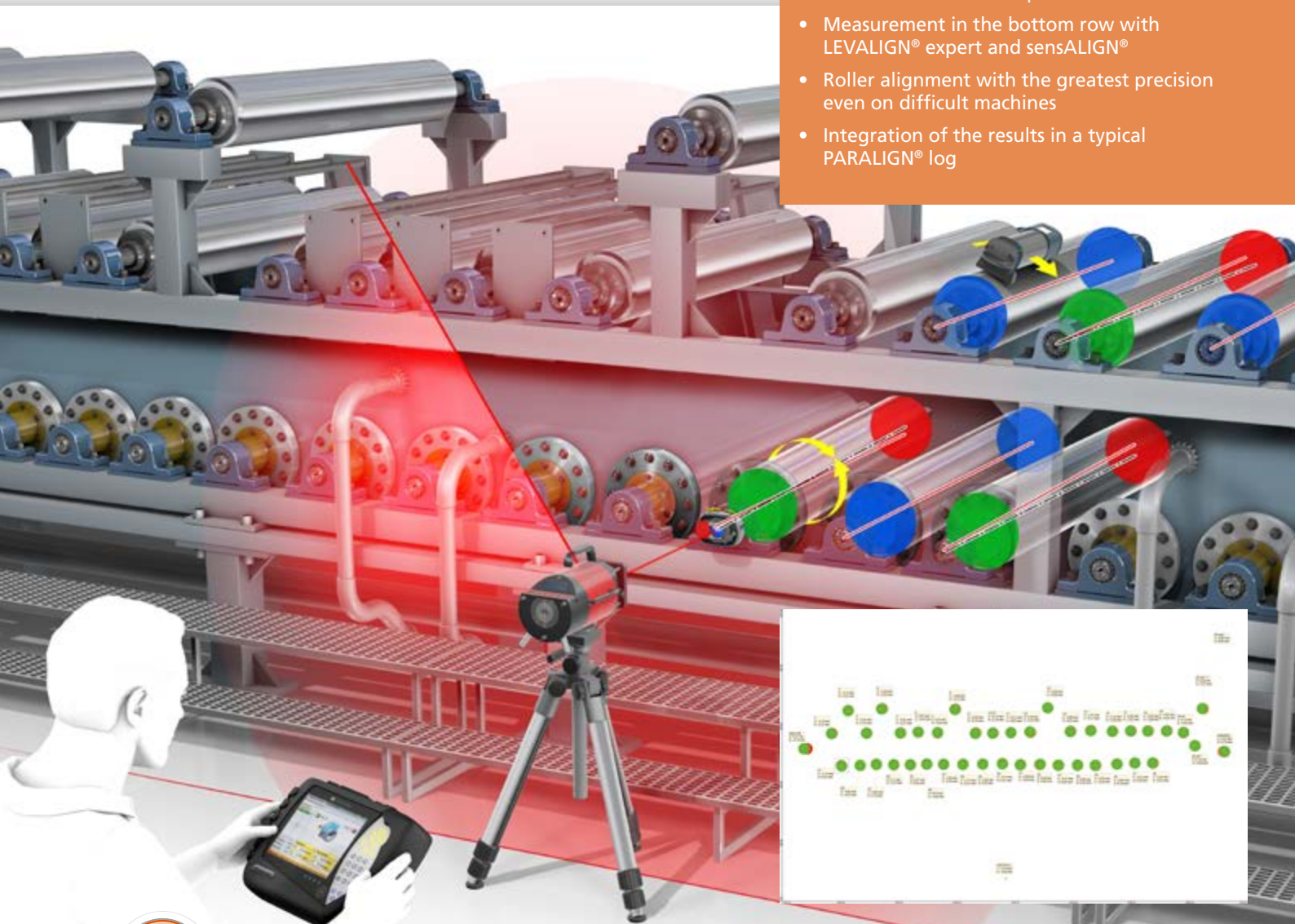


PRUFTECHNIK Service Center

Cylinder & roller alignment with ROLLALIGN® – a new hybrid measuring procedure

- Measurement in the top row with PARALIGN®
- Measurement in the bottom row with LEVALIGN® expert and sensALIGN®
- Roller alignment with the greatest precision even on difficult machines
- Integration of the results in a typical PARALIGN® log

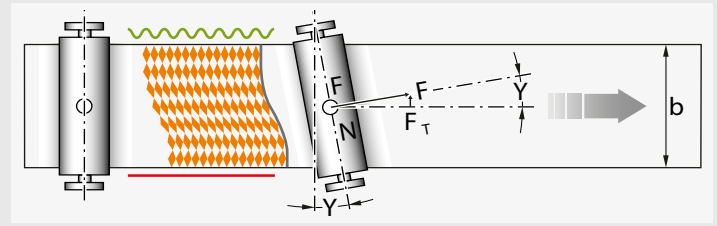


GEO 2.2 – Roller alignment even under difficult conditions with ROLLALIGN®

If you perform failure mode, effects and criticality analysis (FMECA) for roller systems of coating machines, you will notice that an application-specific procedure is required for roller alignment.

For example, if you assess the possibilities and limitations of a range of measuring options in advance, not only can the process quality be improved after deployment of the correct measurement technology; the vibrations and stresses of the rollers that are working together can also be reduced.

ROLLALIGN® is a new PRUFTECHNIK product in which proven PARALIGN® technology is combined with sensALIGN® technology to achieve quick and precise roller parallelism even with complex systems.



Force distribution due to non-parallel roller alignment



Measurement on a metal foil machine

METAL FOIL MACHINE CASE STUDY

Measures for preventing quality deviations due to roller discrepancies

SYSTEM	FUNCTION	FAILURE & CAUSE	F	CONSEQUENCES OF THE FAILURE	S	DETECTION MEASURES (MEASUREMENT SYSTEM)	D	RPN
Metal foil machine	Foil production	Line runs at a slip angle due to roller discrepancies	4	Quality deviations	6	Spirit level/cord/measuring tape	10	240
						Theodolite/total station	8	192
						ProRoll	7	168
						LEVALIGN® expert	6	144
						Lasertracker	5	120
						PARALIGN®	4	96
ROLLALIGN®	1	24						

RISK REDUCTION

- F: Frequency of the failure or the cause associated with it
- S: Significance of the failure consequences
- D: Detectability of the failure depending on the roller measurement system used
- RPN: Risk Priority Number should be less than 125 if possible

OCCURENCE	SIGNIFICANCE	DETECTABILITY	ASSESSMENT (from-to)	
Unlikely	Of no significance	Very high	–	1
Rare	Of little significance	High	2	3
Often	Impairs the production result	Medium	4	6
Regularly	Reduces the production result	Low	7	8
Very often	Reduces the production result and damages the system	Very low	9	10

RISK ASSESSMENT	RPN CLASSES	
	Lower limit	Upper limit
Very low	1	60
Low	61	90
Medium	91	125
High	126	200
Very high	>200	

CONCLUSION & EXPLANATIONS:

The application-specific use of appropriate geometric measurement technology allows the detectability of certain geometric failures to be improved. This results in a significant reduction of the Risk Priority Number (RPN). The RPN is 192 if the metal foil machine shown

is measured with theodolite. The risk number can be reduced from 192 to 96 if PARALIGN® is used. As the bottom roller rows cannot be reached using PARALIGN®, ROLLALIGN® needs to be used in order to achieve a further reduction of the risk to as low as 24.

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