

Shearography Tire Testing

OTR Shearography Tire Testing

Tesco-Italmatic LLC

1-800-377-3329

Service, Sales and Installation of Non-Destructive Testing Systems



Steinbichler Optotechnik GmbH, Neubeuern - Germany
2014

Intact[®] 2800 OTR



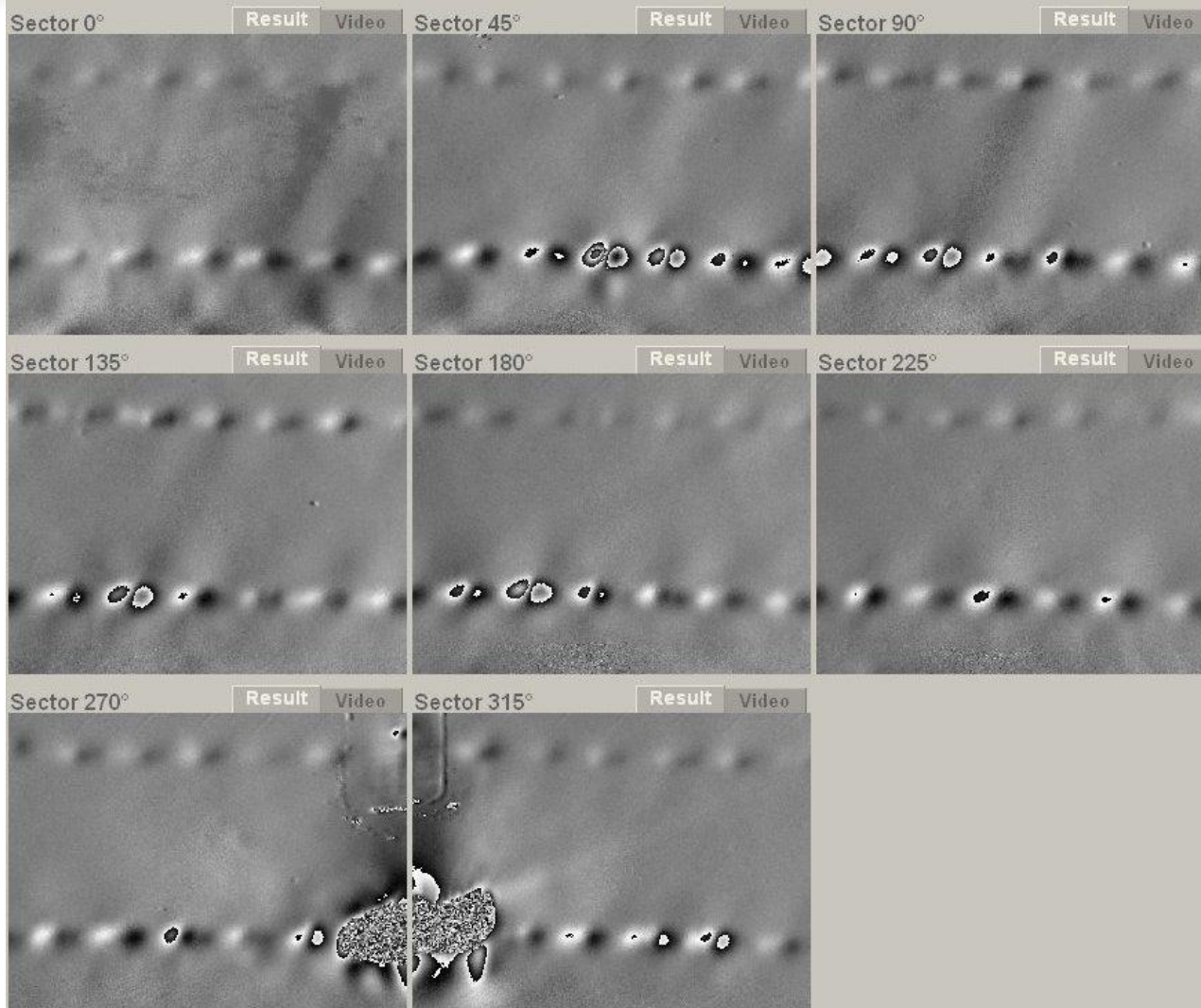
OTR tire sizes 24" – 49", OD 1200 mm – 2800 mm

Intact[®] 4300 OTR



OTR tire sizes: 45" – 63", additionally possible 24" – 49"

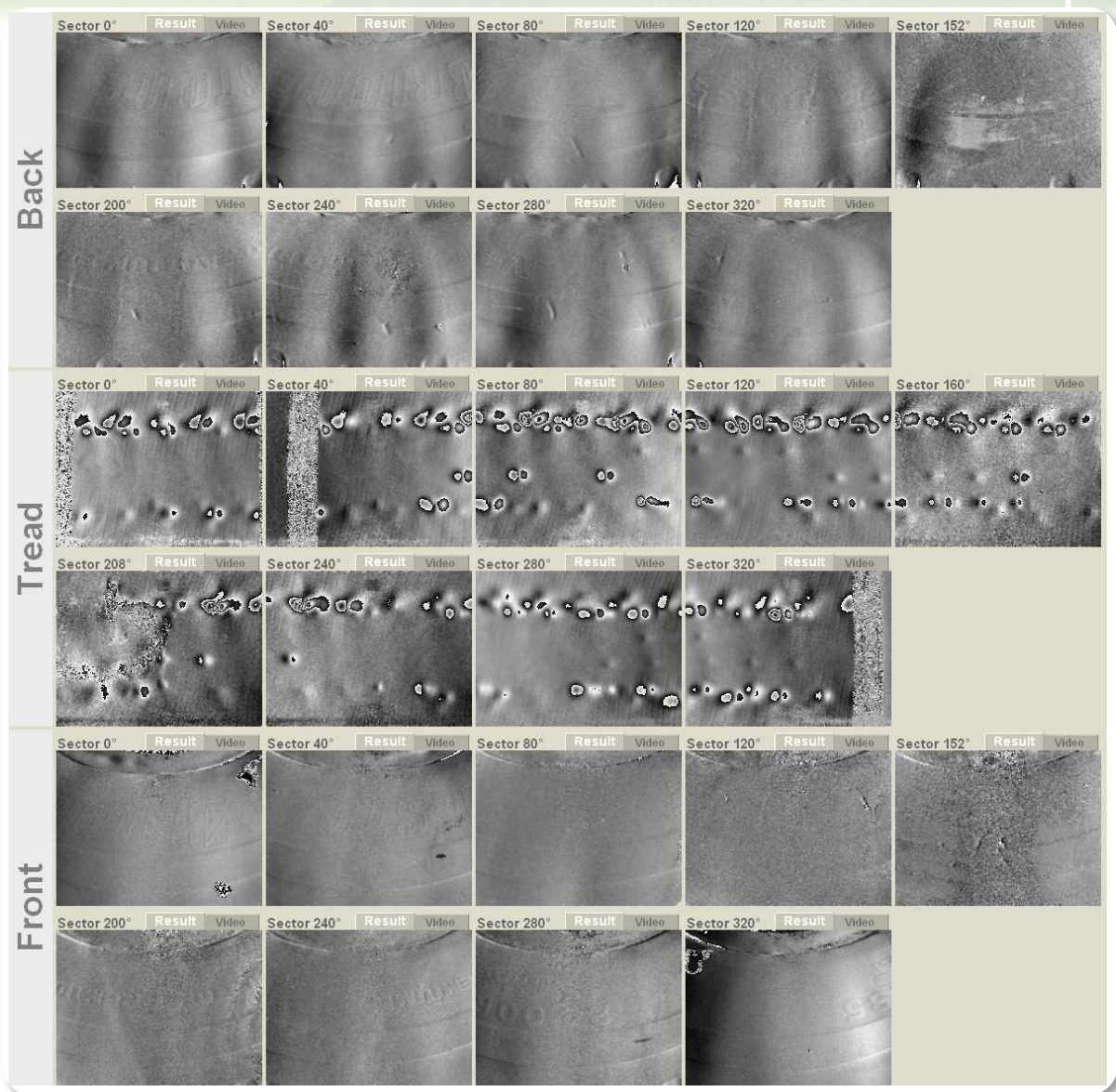
Result Images: 16.00 R 25 Tread



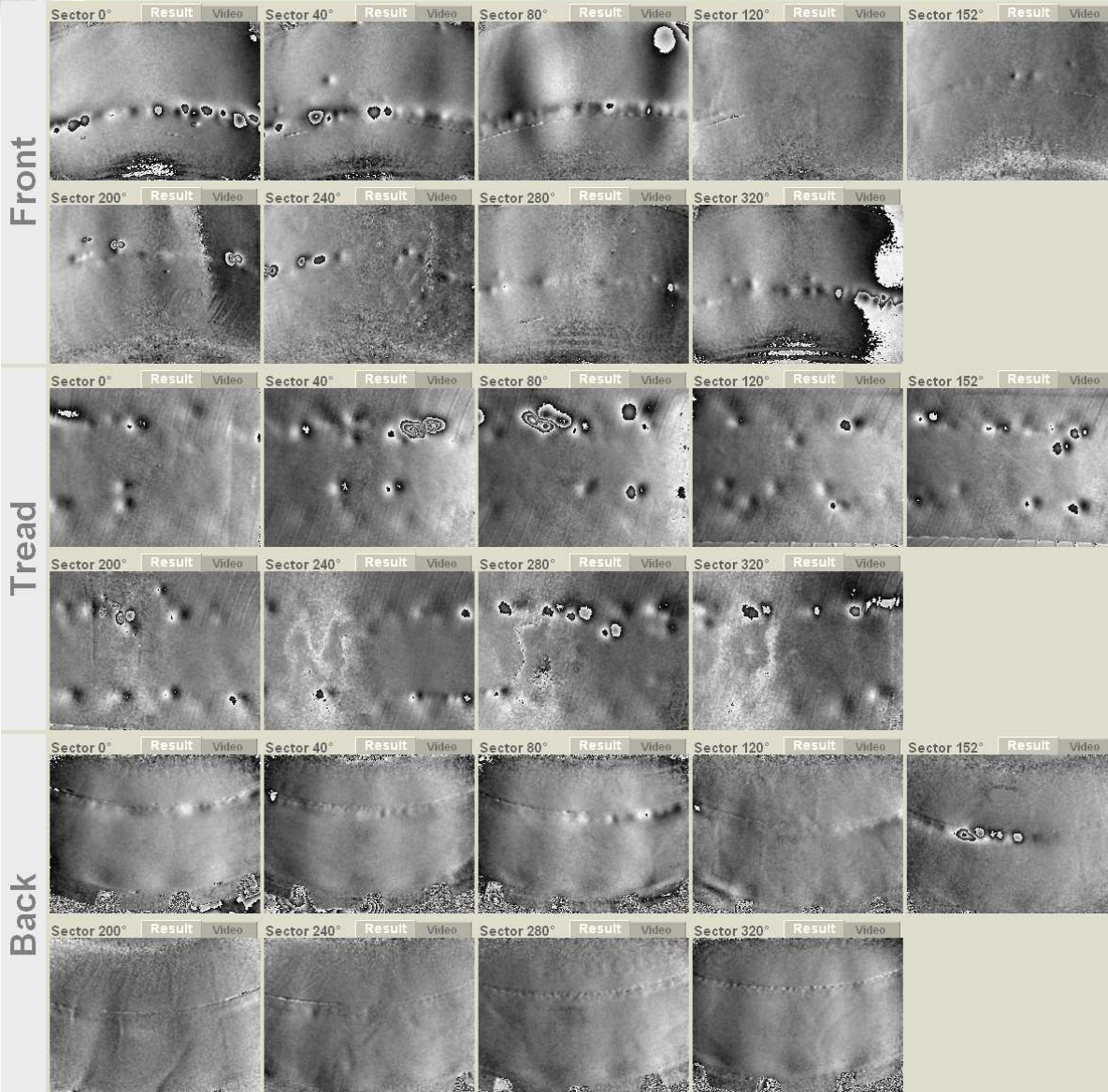
**Belt edge
separation**



Intact 2800: Typical Result Images: 2400 R 35

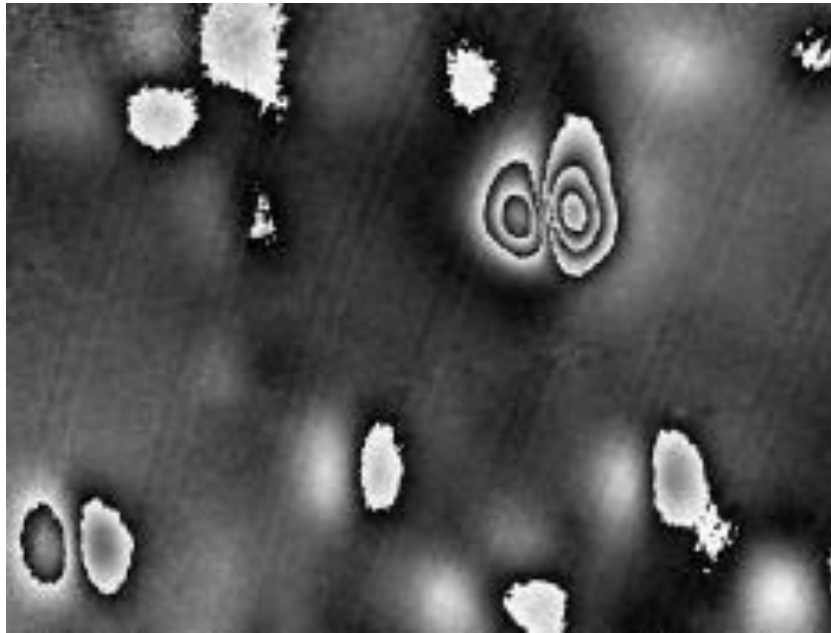


Result Images : 27.00 R 49

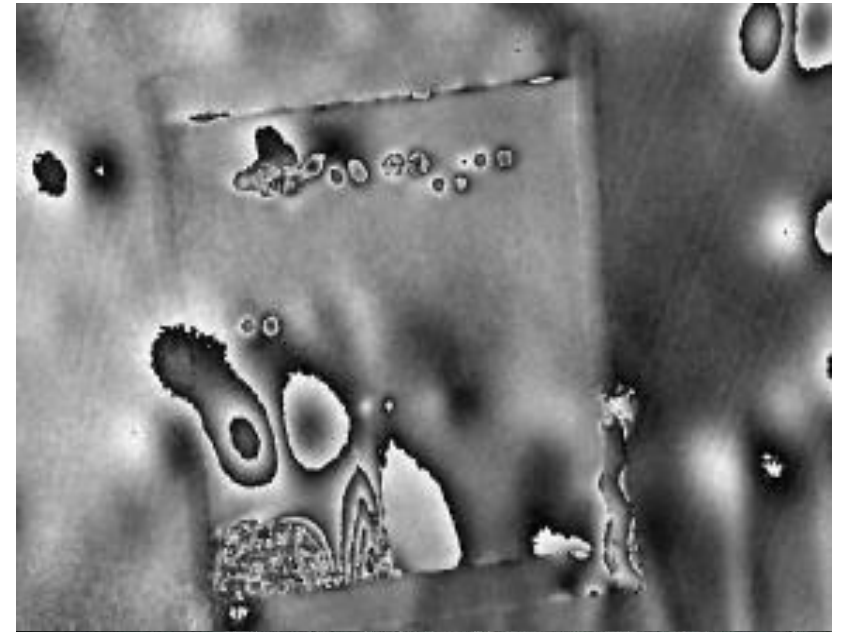




Airbubbles below huge blocks and repair patch at 24.00 R 35



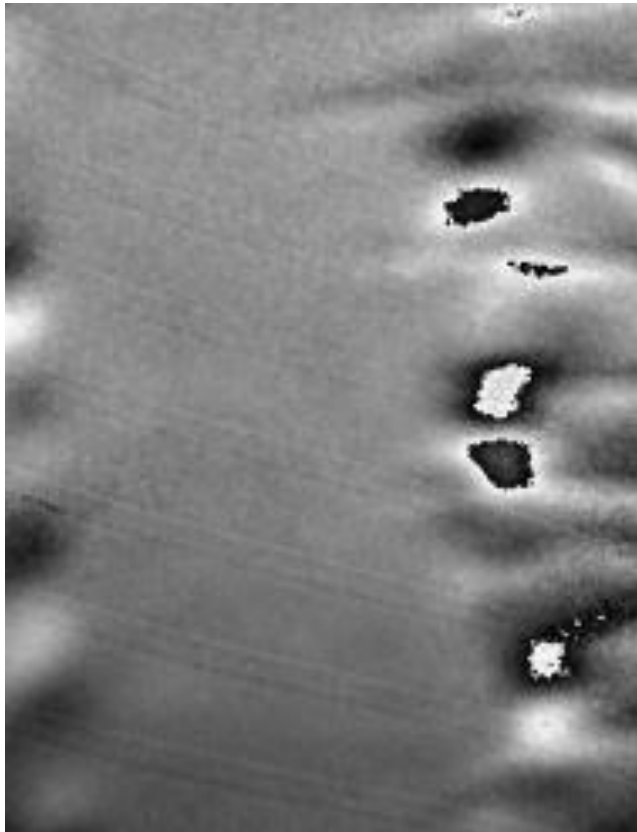
Huge blocks



Repair patch



Belt edge separations: 24.00 R 35



Belt edge separation not visible from outside



Belt edge separation after buffing

Bead-to-bead inspection in VERTICAL orientation avoids tyre flipping:



- No time loss for tyre flipping
- No stress points caused by tyre flipping



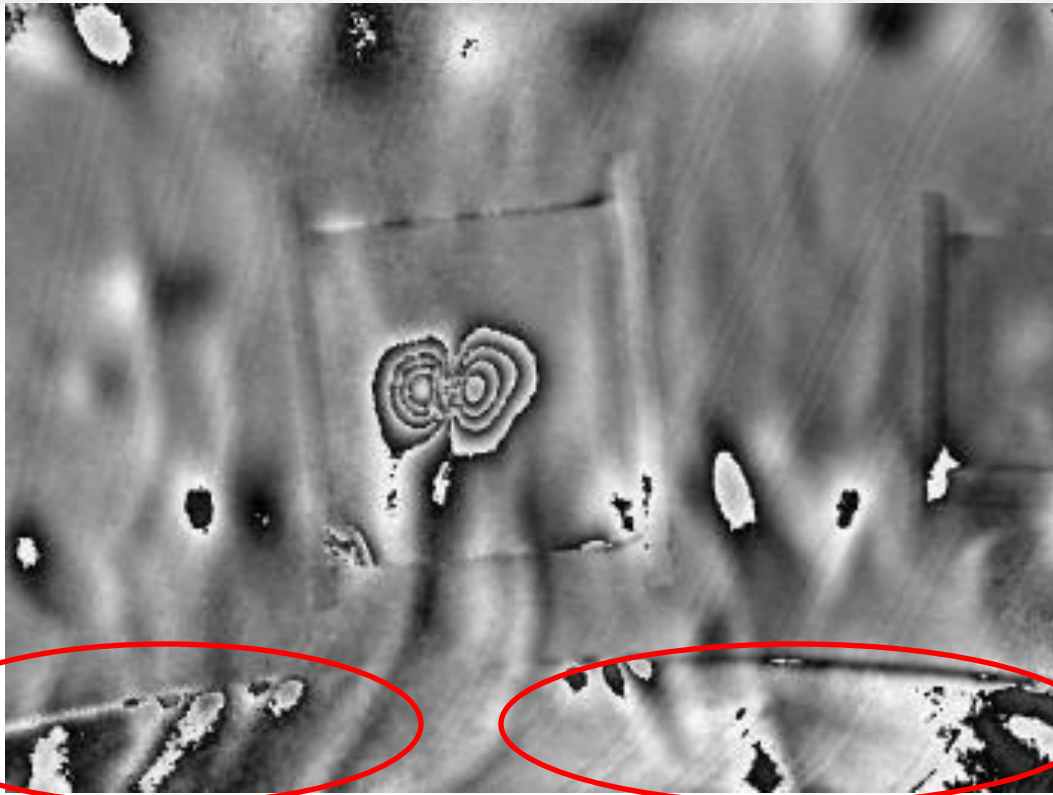
Intact® 2800-3 OTR: Advantages



Bead-to-bead inspection of OTR tires in vertical orientation:

- easy, usual handling of the tires with fork lifters
- no need to flip the tire for inspection of second sidewall
- no dirt and wear on the tire due to inspection

Avoid stress points caused by horizontal inspection position : 24.00 R 35

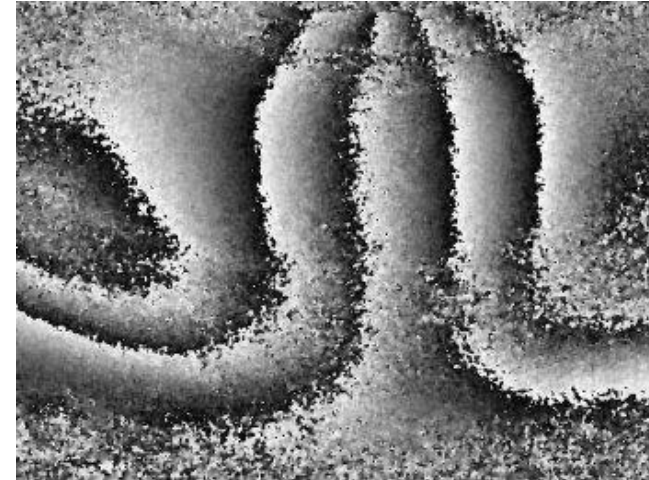


Due to the huge weight of the tires stress points at the shoulder may look like separations, **if the tire is laying on it's sidewall** during inspection.

Wrong interpretation is possible!



Avoid stress points at the sidewall caused by tire flipping: 24.00 R 35



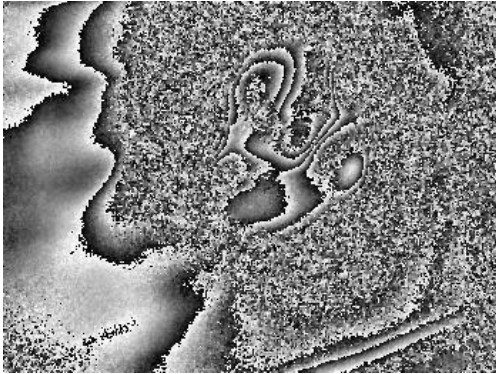
Sidewall view after 5 min. relaxation time!

Stress points at the sidewall look like separations, when the tire is touched at it's sidewall for flipping.

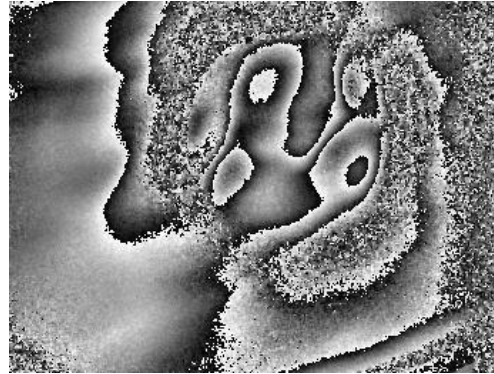
Wrong interpretation is possible!

Necessary delay time increases cycle time!

Avoid stress points caused by tire touching the floor e.g. during flipping:
45/65 R 45



Stress point after 2 min.



after 12 min.



after 3 hours

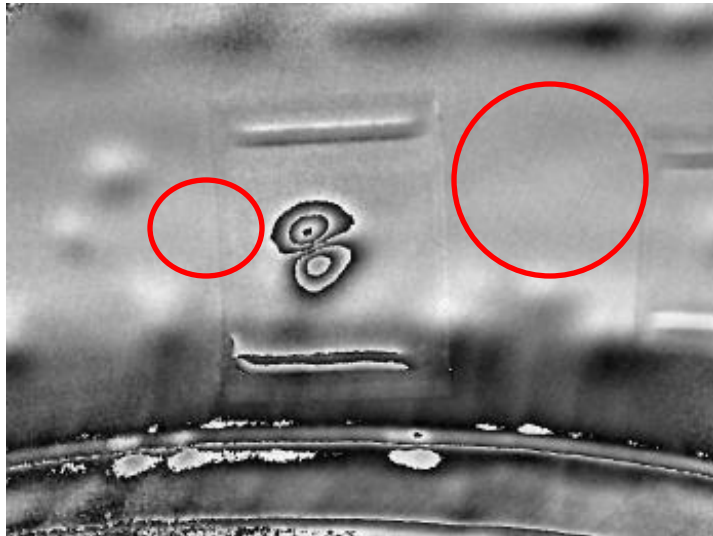
Stress points at the tread area look like separations, if the tire stands on the floor with it's full weight.

Wrong interpretation is possible!

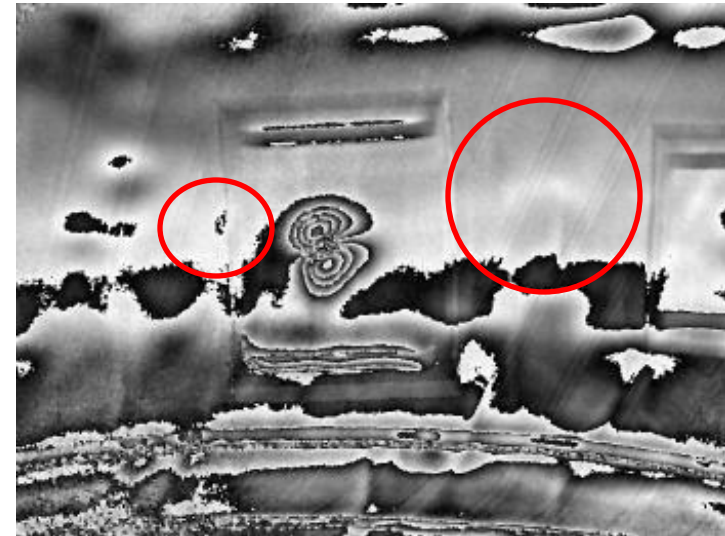
Necessary delay time increases cycle time!



OTR tires are different: pressure difference



50 mBar (typical for truck)



100 mBar

Smaller separations need higher pressure difference to be detected!

For some dimensions more than 100 mBar necessary!

Intact® OTR Shearography System Features



Shortest Cycle Time on the Market → Saves Testing Time

Vertical Tire Testing → Saves Tire Flipping

Vertical Tire Testing → Free of Stress Points

Vertical Tire Testing → no weight-induced stress points

Remote Service via Internet → Easy support, fast service

Tyre Handling with usual Fork Lifts → cost saving