



# Non-intrusive wall-loss Detection.



## PROPERTIES

- Non Intrusive Inspection (NII)
- No direct surface contact
- No object surface cleaning and/or preparation
- No removal of sheeting or thermal insulation
- Measures through marine-growth, coatings and concrete
- Technology is effective above and underwater



## BONPEC

BonPEC is a state of the art Pulsed Eddy Current technology innovation designed and engineered by BonPhysics BV. PEC is the efficient and cost effective solution for the examination of insulated and corroded components and parts in the on- and offshore industry and in the energy sector.

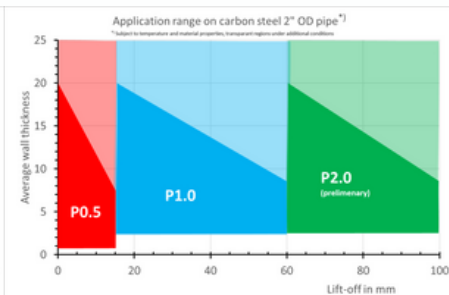
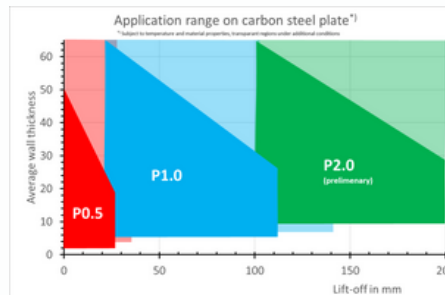
The technology does not require direct contact, cleaning or special and specific preparation of the surface of the object to be examined, therefore no costly and unnecessary insulation removal is required to perform the PEC examination with a considerable cost saving for the client.

## PROBES

Depending on the lift off and the average wall thickness of the object to investigate, a choice must be made which probe to use to optimize the reliability of the results. For a large lift off a large probe is needed. Two probes are directly available P0.5 and P1.0, another probe for even larger lift off is under development. The applicable range of each probe depends on the material properties and measurement geometry, most important the lift off and average wall thickness. In the left graph below you can see the selection diagram for a carbon steel flat plate, in the right for a 2" outer diameter carbon steel pipe:

## SPECIFICATIONS

- Carbon steel (ferromagnetic)
- WT 3-65 mm
- Insulation thickness <200 mm (probes pending)
- Aluminium or Stainless Steel sheeting
- Temp. -150 to 500 degrees celsius
- Minimum pipe diameter 2" (50mm)
- Accuracy 5 %
- Down to 50% AWT reduction to the reference AWT
- +/- 50% lift-off variation to the reference Lift-off
- Repeatability 2%

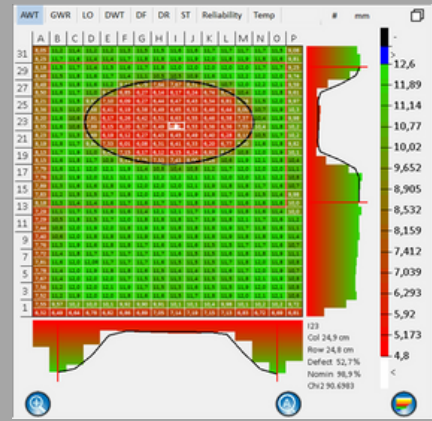


BonPEC probes are designed to minimize false readings, hence they are insensitive to metal objects near the probe, except for the object that is right below it. Because of magnetic field focusing, the probes are (within boundaries) insensitive to lift-off change, angle mismatch or variations of sheeting thickness. These properties are all important for field measurements, reducing false calls and increasing effectiveness of data interpretation.



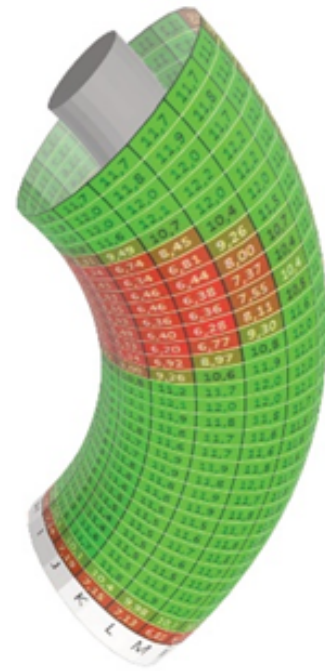
## SOFTWARE

BonPEC software is based on the way that a typical NDT survey is performed. Initially one needs to know what needs to be investigated, which is represented by client and object parameters. Important parameters are the kind of object (pipe, plate or bend), the nominal wall thickness, the lift off and the type of cladding used. Based on this information and the experience of the operator, a suitable probe is selected and a suitable scan is defined. The program gives tools to inspect, check, evaluate and report the measurement data.



## SOFTWARE BENEFITS

- Fast data collection;
- Direct real-time interpretation and results;
- Data digitally stored;
- User-friendly operation (touchscreen);
- Advanced PEC signal presentation feature;
- Advanced PEC data analysis and evaluation algorithms (footprint minimum WT value, etc.);
- Advanced reporting features (Auto report generation, Graphs, 3D result projection on object model/photo, etc.);
- In-service corrosion monitoring;
- Interface language user dependent;
- Operator level dependent software and training.



## REASONS TO JOIN...

...the BonPEC user community

1. Access to know how and more than 27 years of experience of BonPhysics B.V. – PEC team;
2. Realtime data transfer and interpretation is possible;
3. DWT (Defect Wall Thickness) measurement options – minimum wall thickness within footprint of the probe;
4. CUI through galvanised sheeting is possible;
5. The capability of in-service corrosion monitoring;
6. There is an operator level dependent software and training available;
7. Accessibility and availability of new software and hardware innovation and releases;
8. Moreover; Hardware and software made by BonPhysics BV enables:
  - Miniaturized electronics;
  - Tailor-Made solutions;
  - Application development in cooperation with you or other clients.

## CONTACT US



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