Guided Wave Analysis LLC

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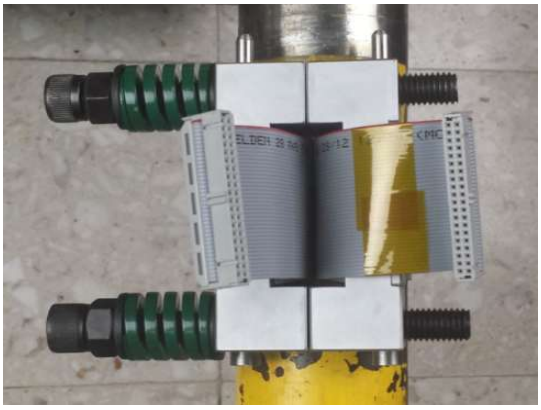
Dry Coupling Tools for MsS Guided Wave Testing

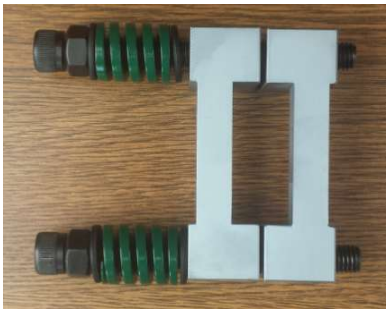
Guided Wave Analysis LLC (GWA) supports service companies and research institutes by supplying dry coupling tools and rings for inspecting different temperature of pipeline.

Dry Coupling Rings and Different Temperature Application

The dry coupling tool is used in magnetostrictive sensor (MsS) guided wave testing for quickly installation of an MsS probe on a pipe. The below photo shows MsS probe installed on pipe by using dry coupling tool. The dry coupling tool consists of three main components: tightener, shoe, and coupling ring.



Dry Coupling Tool installed on Pipe

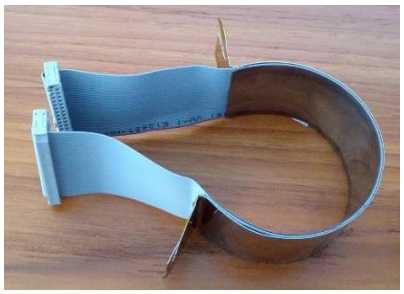


Dry Coupling Tightener

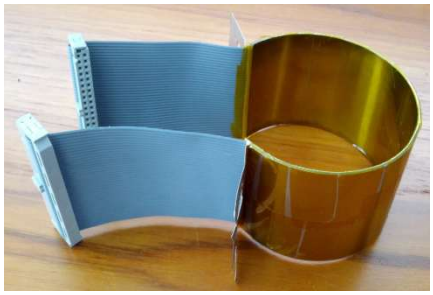
Dry Coupling Shoe

Three different kinds of dry coupling rings are available depending on the pipe surface temperature: Room Temperature (RT Ring, up to 60 °C), High Temperature (HT Ring, up to 260 °C), and Extra high Temperature (ET Ring, up to 500 °C). We recommend using a different dry coupling tool depending on the pipe surface temperature for having higher sensitivity and shorter dead zone length. The coupling between FeCo strip and pipe gets worse as the pipe diameter gets bigger. The coupling efficiency can be increased by using shear couplant with RT Ring for inspecting room temperature pipeline.

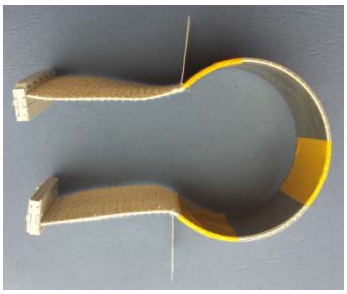
General Category	RT Ring	HT Ring	ET Ring
Suggested Operating Temperature Range	Less than 60 °C	60 to 260 °C	250 to 500 °C
Dead zone length with 128 kHz, 2 cycle operation	About 6 inches	About 12 inches	About 12 inches
Alignment Condition of FeCo strip, ribbon cable, and metal strip belt	Very good	Good	May become loose due to high temperature; Require maintenance frequently



RT Ring



HT Ring



ET Ring