PolyMag® Detection Capabilities:

Machine Guard & Cover
6187 136th Ave.
Holland, MI 49424

6/19/2017

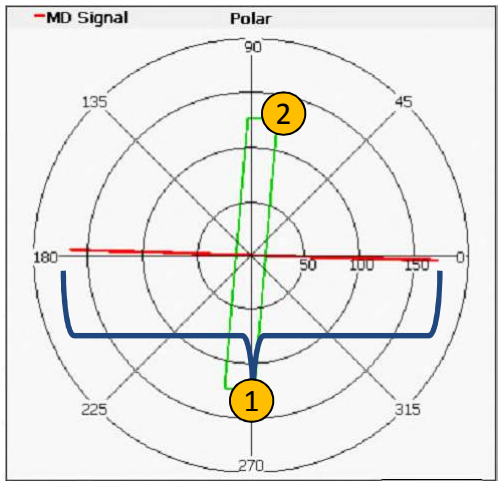
Testing Protocol

Material:	Thermormed ABS with 20% PolyMag HSCP 135827	
Equipment Used:	Xtreme Metal Detector Tunnel Aperture 14"W x 8"H	
Frequency Range:	Range 5	
Material Size:	Size #1~ 3mm X 3mm X 2mm Size #2 ~ 5mm X 5mm X 2mm Size #3 ~ 7mm X 7mm X 2mm Size #4 ~ 7mm X 3mm X 2mm Size #5 ~ 12mm X 12mm X 2mm Size #6~ 3mm X 3mm X 3.3mm Size #7 ~ 5mm X 5mm X 3.3mm Size #8 ~ 7mm X 7mm X 3.3mm Size #9 ~ 7mm X 3mm X 3.3mm Size #10 ~ 12mm X 12mm X 3.3mm	
Physical State:	Solid	
Conditions:	Material Temperature:	Ambient
	Environmental Temperature:	Ambient
Notes:	1. Sample materials were provided by the customer. 2. The sample sizes were cut at Eriez MFG.	

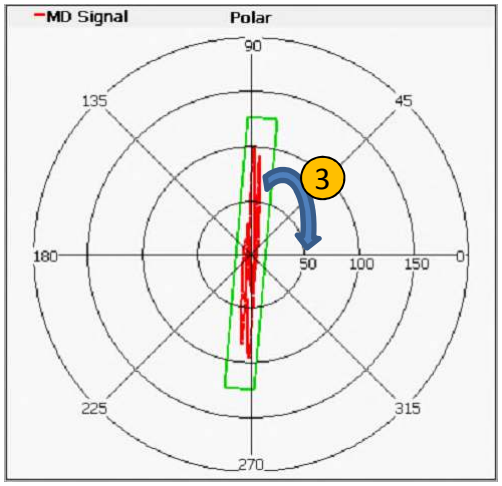
≈ Mild Steel Sphere Equivalent			
Square Cover (2mm) and Rectangular Trim (3.3mm)			
	Sample #1	**Sample #2**	**Sample #3**
3mm X 3mm X 2mm	1.0mm FE	1.0mm FE	1.0mm FE
5mm X 5mm X 2mm	1.4mm FE	1.4mm FE	1.3mm FE
7mm X 7mm X 2mm	1.7mm FE	2.0mm FE	1.9mm FE
7mm X 3mm X 2mm	1.3mm FE	1.3mm FE	1.4mm FE
12mm X 12mm X 2mm	3.0mm FE	2.9mm FE	3.1mm FE
3mm X 3mm X 3.3mm	1.2mm FE	1.2mm FE	1.1mm FE
5mm X 5mm X 3.3mm	1.8mm FE	1.8mm FE	1.8mm FE
7mm X 7mm X 3.3mm	2.5mm FE	2.5mm FE	2.4mm FE
7mm X 3mm X 3.3mm	1.7mm FE	1.7mm FE	1.7mm FE
12mm X 12mm X 3.3mm	3.9mm FE	3.9mm FE	4.1mm FE

PolyMag® Detection Explained

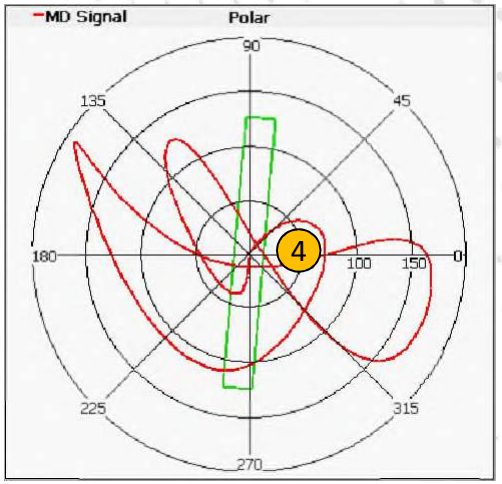
PolyMag® Only



Food Product Only



Food Product with PolyMag®



1. Magnitude of the PolyMag® Signal (red)
2. Detection Boundary for the Food Product (green)
3. Phase Angle of the Product Signal (typical for meat/produce)
4. Detection occurs when the product signal (red) crosses the detection boundary (green).

Notes:

1. Sample material was provided by the customer. The samples were cut into the sizes listed in the Testing Protocol.
2. These samples would be more difficult to detect in a dry non-conductive product; products with a phase out point of approximately zero degrees. Larger Pieces could be detected where the magnitude of the contaminant is much larger than that of the good product. For the Xtreme metal detector this would be length detection.
3. Refer to the chart above for the equivalent non-ferrous/mild steel test sphere sizes for each sample size when setup for a wet or conductive product with a phase out point around ninety degrees.
4. Liquid line systems typically are setup to detect between 0.5mm and 2.5mm mild steel test spheres depending on the pipe size and product signal.
5. Packaged products typically are setup to detect between 1.5mm and 4.0mm mild steel test spheres depending on the aperture size and the product signal.

Qualifiers:

1. These results are based on the information and sample(s) provided/procured. If either should change, these results may be affected.
2. These results are expected in typical installations. Some installations may influence these results. All installation guidelines must be followed.
3. A power line conditioner for the metal detector should be considered if used on other existing equipment (i.e., computers, weigh scales, etc.) at the installation site.
4. All non-hazardous samples will be disposed within 60 days from the completion of the product tests, unless alternative instructions are given.