

ERIEZ MAGNETICS RESEARCH & DEVELOPMENT

TEST SUMMARY



September 25, 2007

METAL DETECTION: E-Z TEC DSP

Sample No: 15197
MDR Number: 07-329
Technician: PES

Department: Metal Detection
Eriez Contact: John Collins
Eriez Rep: N/A

Material Characteristics:

Characteristic	Applicable Information
Type of Material:	10% PolyMag HSCP Additive in Polypropylene Moldings
Size:	Smaller Cube ~(0.12" x 0.12" x 0.12") Larger Cube ~(0.25" x 0.25" x 0.12")
Process Temperature:	Ambient
Wet/Dry:	Dry

Comments:

1. The customer provided samples for testing.
2. Multiple samples were cut down to be a 0.12" x 0.12" x 0.12" small cube.
3. Multiple samples were cut down to be a 0.12" x 0.25" x 0.25" larger cube.
4. These samples would not be easily detectable in a dry, non-conductive product; products with a phase out point around zero degrees. Larger Pieces could be detected where the magnitude of the contaminant is larger than that of the good product. For the EZ Tec DSP this would be length detection.
5. See Table 1 for equivalent mild steel test sphere sizes when setup for a wet, conductive product; products with a phase out point around ninety degrees.

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Table 1

	0.12" x 0.12" x 0.12" Small Cube	0.12" x 0.25" x 0.25" Large Cube
10% PolyMag Black HSCP 135814 (Net 7% Iron Oxide)	1.1mm Ferrous	2.0mm Ferrous
10% PolyMag Gray HSCP 135827 (Net 7% Stainless Steel)	1.0mm Ferrous	1.8mm Ferrous

6. 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.
7. Packaged products typically are setup to detect between 1.0mm and 3.0mm mild steel test spheres depending on the product signal.
8. **Magnetic Separation:** MTR 06-263 testing of 0.12" x 0.12" x 0.12" cubes demonstrated the ability of the Eriez B2, B3 and B4 Liquid Line Magnetic Traps to capture and retain these cubes in 1400 centipoise glycerin at rates of 16 to 25 gpm. 70% of the samples were retained at 3200 centipoise.

Qualifiers:

1. These results are based on the information and sample(s) provided. 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 metal detectors should be considered if used on other existing equipment (i.e., computers, weigh scales, etc.) at the installation site.