

### A1.03. Detection Capability Sheet (5/8, +/-10%, 80%) 12/56" MagneScan

## POF 12" to 56" MagneScan

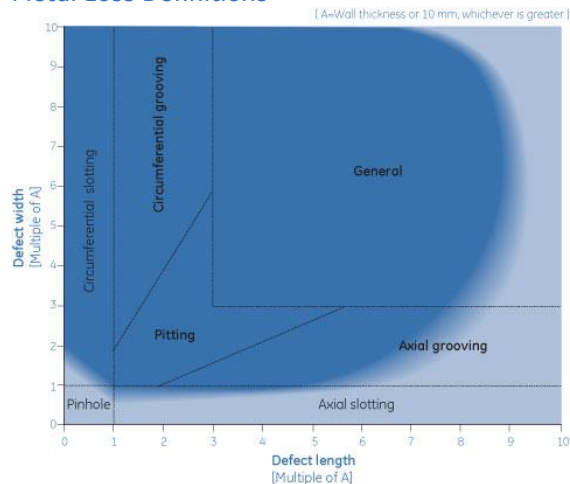
### Inspection of Seamwelded Pipes – Manual Sizing

Property	Full detection and sizing accuracy or metal loss in body of pipe					Full detection and sizing accuracy for metal loss in the vicinity of a weld*			
	Certainty (Probability)	General Metal loss	Pitting	Axial Grooving	Circumferential Grooving	General Metal Loss	Pitting	Axial Grooving	Circumferential Grooving
Min. Depth At 90% POD		5%	8%	8%	5%	9%	13%	13%	9%
Depth Sizing Accuracy	80% 90%	±10% ±15%	±10% ±15%	-15%/+10% -20%/+15%	-10%/+15% -15%/+20%	±15% -	±15% -	-20%/+15% -	-15%/+20% -
Width Sizing Accuracy	80% 90%	±20 mm ±25 mm	±20 mm ±25 mm	±20 mm ±25 mm	±20 mm ±25 mm	±25 mm -	±25 mm -	±25 mm -	±25 mm -
Length Sizing Accuracy	80% 90%	±15 mm ±20 mm	±10 mm ±15 mm	±20 mm ±25 mm	±20 mm ±25 mm	±20 mm -	±15 mm -	±25 mm -	±25 mm -

\* The vicinity of the weld refers to the heat affected zone – not in the weld material.

POD = Probability of Detection (reference diameters of the defect areas: 4A for General Metal Loss and 2A for Pitting where A = max(wt,10mm))  
POI = Probability of identification.

### Pipeline Operators Forum (POF) Metal Loss Definitions



### Identification of Features

<b>YES</b> <b>POI &gt; 90%</b>	<ul style="list-style-type: none"> <li>- internal/external discrimination</li> <li>- corrosion/metal loss; corrosion/metal loss cluster; artificial metal loss; pipe mill anomaly (metal loss)</li> <li>- wall thickness change (between two pipe joints and within a pipe joint)</li> <li>- dent</li> <li>- presence of debris; presence of touching metal to metal</li> <li>- eccentric pipeline casing; welded sleeve repair, composite sleeve repair (if metal content)</li> <li>- external support; ground anchor; pipeline fixture</li> <li>- off-take; tee; valve</li> <li>- bend</li> <li>- reference magnet</li> </ul>
<b>NO</b> <b>POI &lt; 50%</b>	<ul style="list-style-type: none"> <li>- arc strike</li> <li>- crack in base material or longitudinal weld; anomaly in longitudinal weld</li> <li>- HIC; SCC; spalling</li> <li>- ovality</li> <li>- presence of weld deposit; presence of coating</li> </ul>
<b>MAYBE</b> <b>POI ≤ 90%</b> <b>POI ≥ 50%</b>	<ul style="list-style-type: none"> <li>- anode/CP connection (depending on wall thickness &amp; type)</li> <li>- buckle; wrinkle; dent with metal loss</li> <li>- gouging; grinding</li> <li>- girth weld or spiral weld crack; girth weld or spiral weld anomaly; lamination</li> <li>- diameter change; adjacent tapering</li> <li>- crack arrestor</li> </ul>

## POF 12" to 56" MagneScan

### Inspection of Seamless Pipes – Manual sizing

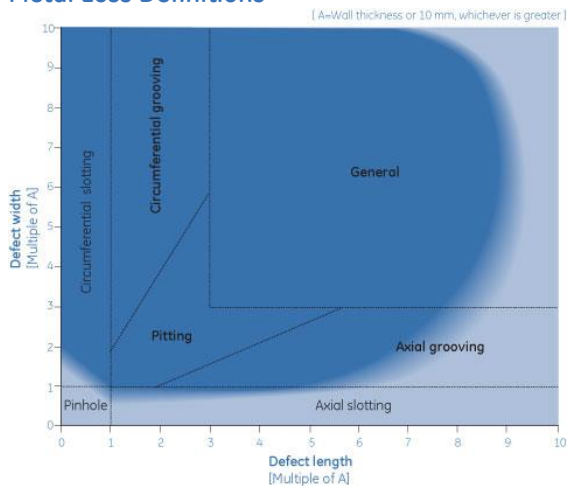
Property	Full detection and sizing accuracy or metal loss in body of pipe					Full detection and sizing accuracy for metal loss in the vicinity of a weld*			
	Certainty (Probability)	General Metal loss	Pitting	Axial Grooving	Circumferential Grooving	General Metal Loss	Pitting	Axial Grooving	Circumferential Grooving
Min. Depth At 90% POD		9%	13%	13%	9%	18%	24%	24%	18%
Depth Sizing Accuracy	80% 90%	±10% ±15%	±10% ±15%	-15%/+10% -20%/+15%	-10%/+15% -15%/+20%	±15% -	±15% -	-20%/+15% -	-15%/+20% -
Width Sizing Accuracy	80% 90%	±20 mm ±25 mm	±20 mm ±25 mm	±20 mm ±25 mm	±20 mm ±25 mm	±25 mm -	±25mm -	±25 mm -	±25 mm -
Length Sizing Accuracy	80% 90%	±15 mm ±20 mm	±15 mm ±20 mm	±20 mm ±25 mm	±20 mm ±25 mm	±20 mm -	±20 mm -	±25 mm -	±25 mm -

\* The vicinity of the weld refers to the heat affected zone – not in the weld material.

POD = Probability of Detection (reference diameters of the defect areas: 4A for General Metal Loss and 2A for Pitting where A = max(wt,10mm))

POI =Probability of identification.

### Pipeline Operators Forum (POF) Metal Loss Definitions



### Identification of Features

<b>YES</b> <b>POI &gt; 90%</b>	<ul style="list-style-type: none"> <li>- internal/external discrimination</li> <li>- corrosion/metal loss; corrosion/metal loss cluster; artificial metal loss; pipe mill anomaly (metal loss)</li> <li>- wall thickness change (between two pipe joints and within a pipe joint)</li> <li>- dent</li> <li>- presence of debris; presence of touching metal to metal</li> <li>- eccentric pipeline casing; welded sleeve repair, composite sleeve repair (if metal content)</li> <li>- external support; ground anchor; pipeline fixture</li> <li>- off-take; tee; valve</li> <li>- bend</li> <li>- reference magnet</li> </ul>
<b>NO</b> <b>POI &lt; 50%</b>	<ul style="list-style-type: none"> <li>- arc strike</li> <li>- crack in base material or longitudinal weld; anomaly in longitudinal weld</li> <li>- HIC; SCC; spalling</li> <li>- ovality</li> <li>- presence of weld deposit; presence of coating</li> </ul>
<b>MAYBE</b> <b>POI ≤ 90%</b> <b>POI ≥ 50%</b>	<ul style="list-style-type: none"> <li>- anode/CP connection (depending on wall thickness &amp; type)</li> <li>- buckle; wrinkle; dent with metal loss</li> <li>- gouging; grinding</li> <li>- girth weld or spiral weld crack; girth weld or spiral weld anomaly; lamination</li> <li>- diameter change; adjacent tapering</li> <li>- crack arrestor</li> </ul>