0 Rods – General

0.1 Refer to the most current revision of the Fair-Rite Products document Visual Inspection – Definitions & General Criteria for irregularity definitions.

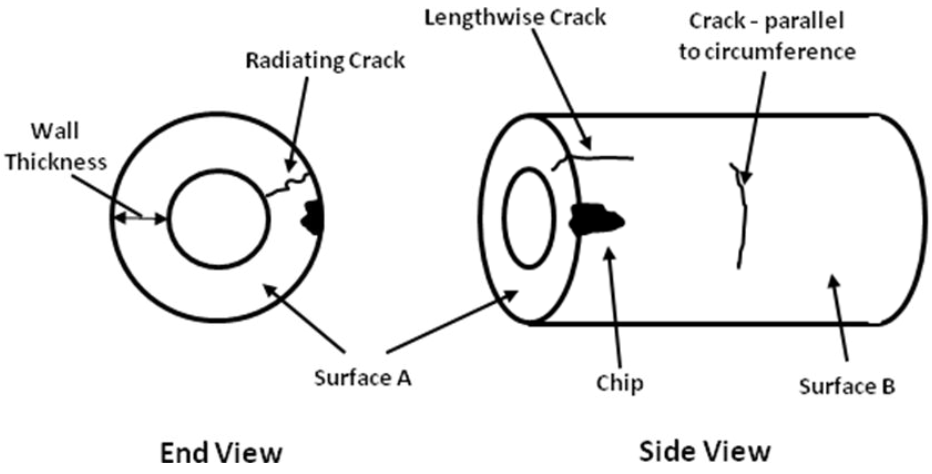

Figure 1

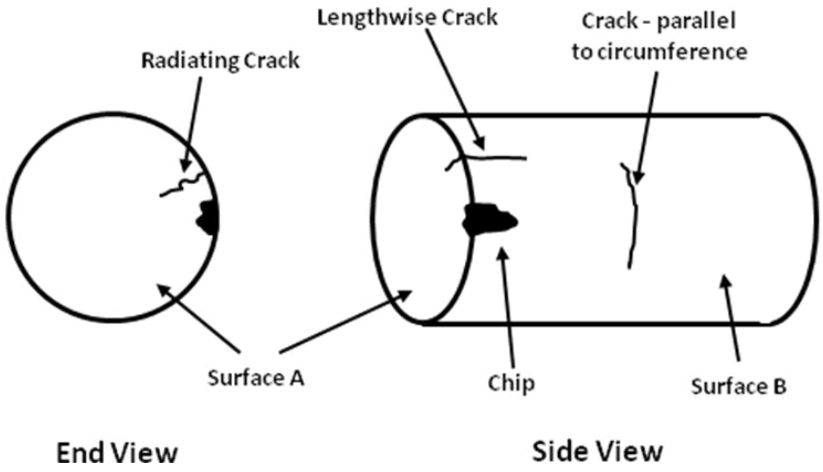

Figure 2

Figure 3

1 Limits for Chips by Part Size

1.1 The largest dimension of any chip may never exceed the general maximum set in Visual Inspection – Definitions & General Criteria.

1.2 Maximum amount of material missing from all chips combined cannot exceed 10% by volume.

Figure 1

Core Size	Surface	Max Size Allowed	Max Qty
Nominal OD of less than 3.2mm	A, B	No limit though no broken parts allowed	N/A
Nominal OD of 3.2mm to 6.3mm	A	No limit	N/A
	B	Less than 1/3 of the Bead length	1
Nominal OD greater than 6.3mm to 12.7mm	A	No limit	3 on each surface, 5 total
	B	Less than 1/4 of the Bead length or 1/2 of the wall thickness, whichever is smaller	
Nominal OD greater than 12.7mm	A	Less than 1/2 of the wall thickness to max of 5 mm	3 on each surface, 5 total
	B	Less than 1/4 of the Bead length to a max equivalent area of 5mm x 7mm; less than max depth of 0.25mm	

Figure 2

Core Size	Surface	Max Size Allowed	Max Qty
Nominal OD of less than 6.3mm	A	1/2 of OD or 1mm, whichever is greater	2
	B	OD	2
Nominal OD of 6.3mm to 12.7mm	A	3mm	2
	B	1/4 of OD or 1/10 of Length, whichever is smaller up to 5mm	2
Nominal OD of greater than 12.7mm	A	1/4 of OD up to 5mm	2
	B	1/4 of OD or 1/10 of Length, whichever is smaller	2

2 Limits for Cracks

Figure 1

Crack Type	Max Size Allowed	Max Qty
Radiating / Lengthwise	1/5 of Wall Thickness	1
Parallel to Circumference	1/3 of Circumference (cumulative) – must be unopened	1

Figure 2

Crack Type	Max Size Allowed	Max Qty
Radiating / Lengthwise	None	N/A
Parallel to Circumference	1/3 of Circumference (cumulative) – must be unopened	1

3 Limits for Pullout, Bumps, Pits, etc.

Type	Max Size Allowed	Max Qty
Crazing	No limit	N/A
Pits	Reference Chip criteria	Reference Chip criteria
Bumps	Small to moderate Bumps that do not interfere with part's fit or function	Unlimited
Ragged Edges	1mm	Entire length of relevant edge(s)
Pullout	0.075mm depth	Cumulative area of Pullout must be less than 1/4 of the relevant surface area
Sticking	No limit	N/A

4 Limits for Flash

Figure 1

Core ID Size	Max Size Allowed
Less than or equal to 3mm	Flash is allowed. However, flash can never interfere with part size.
Greater than 3mm	Flash is allowed unless the part is burnished. If the part is burnished, no flash is allowed. Flash can never interfere with part size.

5 Guidelines for Rods less than 0.75mm in diameter:

5.1 These sized parts which are not visually inspected by automated means are not expected to be defect-free.

5.2 A packaged quantity of these sized parts can typically contain a defect level of up to 0.5%. An additional quantity of 0.5% above the label quantity will be added to each packaged container to offset this maximum defect level.

6 Associated Documents:

6.1 Fair-Rite Products: Visual Inspection – Definitions & General Criteria

7 Revision History:

Revision Number	Reason for Change	Revision Date
1	Complete revision	5/6/16
2	Added section 1.2	9/18/17

References:

International Electrotechnical Commission (IEC) International Standard 60424-1: Ferrite Cores – Guide on the Limits of Surface Irregularities Part 1: General specification (First Edition 1999-05)

International Electrotechnical Commission (IEC) International Standard 60424-4: Ferrite Cores – Guide on the Limits of Surface Irregularities Part 4: Ring-cores (First Edition 2001-02)