

QQIs

Quantitative Quality Indicator Test Piece Shims

QQIs are artificial flaw (notched) shims that are attached to example parts, commonly used to demonstrate both field strength and direction within a part. Available in several different configurations, QQIs are thin steel shims with etched patterns in circular and cross shapes to provide indications in all directions. The steel alloy and notch dimensions, as specified in AS 5371, are designed to provide indications when the base part is magnetized to at least 30 gauss. The thin shims can conform to curved part surfaces, and they are typically affixed to a part using permanent adhesives.

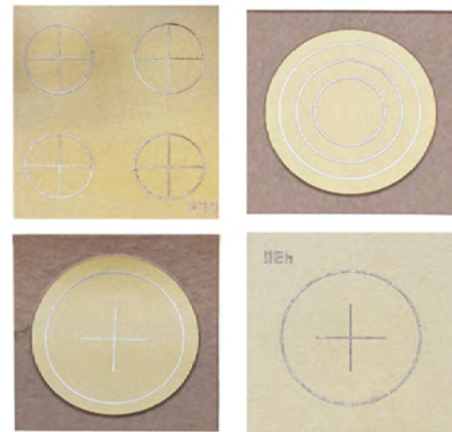
QQIs are useful for setting up the magnetization parameters for part-specific techniques, and can be used to create an example part for the daily system performance check of the magnetizing equipment.

They are very important for the setup and balance of multi-directional fields, since they have circular flaws that show indications in all directions simultaneously.

INSTRUCTIONS

Remove the corrosion-resistant film from the QQI before use. Solvents such as SKC-S, acetone, or an adhesive remover (Goof-Off or equivalent) are recommended. Use caution when handling to prevent damage or distortion.

QQIs must be placed in intimate contact with the notches facing inward towards the part surface. Permanent adhesive such as cyanoacrylate (super glue or equivalent) is recommended. Attach the QQI conforming to the part surface with no gaps or loose areas. No adhesive should remain on the outer inspection surface after the QQI is attached.



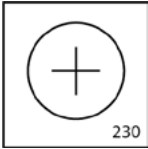
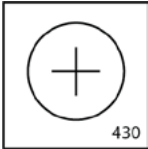
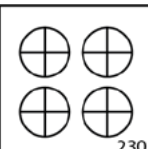

Cellophane tape (Scotch Brand 191, 471, or 600 series) may be used to attach QQIs. Care should be taken to only cover the edges of the QQI so that the central notched area is clear. If the tape becomes loose, completely remove the QQI, clean and reattach with new tape.

MULTI-DIRECTIONAL FIELDS

Multi-directional applications are determined by setting the amperage of each direction individually, then balancing the fields when applied together.

- For each field direction, slowly increase the amperage until a visible indication is achieved.
- Demagnetize the part and clean the QQIs between each field direction.
- In multi-directional mode, begin with the amperage settings determined individually. To balance the fields, adjust the amperage of each direction as needed until the entire circle of the QQI is visible.

NOTE: QQIs do not hold residual fields. Continuous magnetization methods will produce the best results.

CX-230 	0.75 inch (19 mm) square shim with circle-cross notch pattern, 0.002 inch (0.05 mm) thickness with a notch depth of 30% of shim thickness. Self adhesive.
CX-430 	0.75 inch (19 mm) square shim with circle-cross notch pattern, 0.004 inch (0.10 mm) thickness with a notch depth of 30% of shim thickness.
CX4-230 	0.79 inch (20 mm) square shim with four circle-cross notch patterns, to be cut by user into four separate shims. 0.002 inch (0.05 mm) thickness with a notch depth of 30% of shim thickness.
3C2-234 	0.75 inch (19 mm) square shim, 0.002 inch (0.05 mm) thickness, with three circle notches, depths at 20% (outer), 30% (center), 40% (inner) of shim thickness. Self adhesive.

SPECIFICATIONS

- AS 5371
- ASME BPVC Section V Article 7
- ASTM E709
- ASTM E1444
- ASTM E3024

PART NUMBER

- 625551 CX-230, Set of 5
- 625552 CX4-230, Set of 5
- 625553 CX-430, Set of 5
- 625554 3C2-234, Set of 5