INSTRON®

The difference is measurable®

AverEdge32™

AVE3 Advanced Feature

Built on our trusted AVE3 Advanced Video Extensometer, AverEdge32 is Instron's latest innovation in providing best-in-class transverse strain accuracy for all sheet metal materials.

Plastic strain ratio (r-value) requires an accurate and repeatable transverse strain measurement. AverEdge32 provides this by utilizing the onboard processing power of the AVE3 to capture 32 individual transverse strain values within the specimen's gauge length and average them into a single digital signal in real time. This prevents any outliers in results and is the only true solution for metals that exhibit localized plastic deformation, the Portevin-Le Chatelier (PLC) effect.

Traditional transverse extensometers provide one, or at most two, transverse strain signals to determine r-value which causes inconsistency between tests as any localized strain, device movement, and differences between operators can cause up to 30% in variation for r-value. This can result in time wasted having to retest to validate the r-value met the performance promised to your customers.

FEATURES AND BENEFITS

- Real-time transverse strain, averaged from 32 gauge widths, provides repeatable transverse strain with even the most demanding materials
- Improved results repeatability, reducing or eliminating the need to perform any retesting
- Edge detection eliminates the need for transverse marks
- Exceeds the requirements of ISO 10113, ASTM E517, JIS Z 2254 & GB/T 5027 for plastic strain ratio (r-value)
- AverEdge32 can be seamlessly integrated with any existing AVE2 or AVE3 currently installed or purchased separately
- Patent Pending back screen design guides the light away from the operator, reducing fatigue

SPECIFICATIONS

Lens Focal Length	mm	16
Axial Field of View	mm in	163 6.41
Transverse Field of View	mm in	39 1.53
Minimum Axial Gauge Length	mm in	25 0.98
Minimum Transverse Gauge Width	mm in	12.5 0.5
Maximum Transverse Gauge Width	mm in	30 1.18
Resolution	µm	0.5
Accuracy (Axial)	µm	±1 or 0.5% of Reading*
Accuracy (Transverse)	µm	±3 or ±1% of Reading*

CLASSIFICATION TO STANDARDS (EDGE-BASED TRANSVERSE)

Classification to ISO 9513:2012	mm	Class 1
Classification to ASTM E83-10	mm	Class C (Axial G.L. ≥ 25)

Note: Only AVE3 specifications that differ during AverEdge32 operation are provided above. Refer to the AVE3 literature for all other specifications.

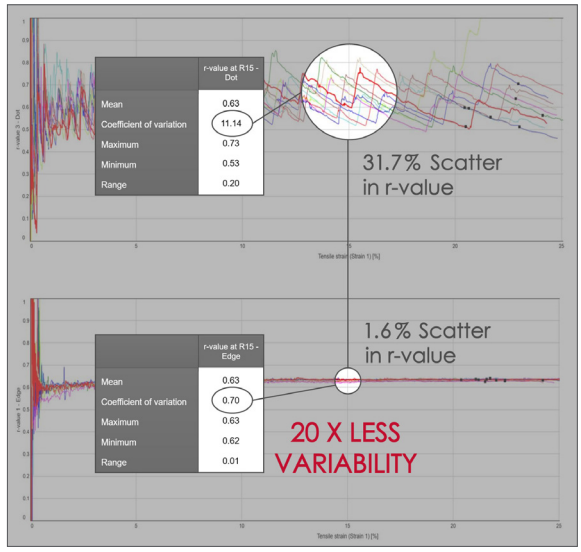
PATENT PENDING TECHNOLOGY

- Industry first Dual Use Lighting System leverages the AVE3 front LED lighting combined with a passive back screen to provide a robust system to illuminate the front and rear of the specimen.
- Thickness Correction eliminates the need for costly telecentric lenses that limit field of view and total elongation.
- Contrast Compensation provides robust tracking of marks or specimen edges even if lighting conditions change during a test.

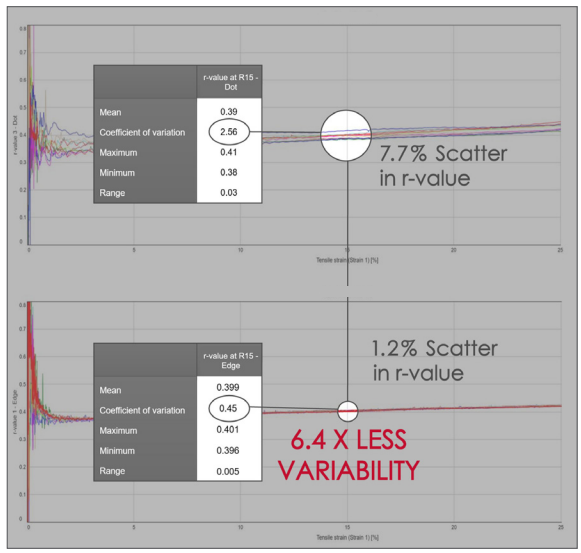
HARDWARE AND SOFTWARE REQUIREMENTS

The AVE3 runs on the same PC as the testing machine software. Requires Bluehill® Universal V4.21 or later.

Passive back screen - part of dual use lighting system



5000 series aluminum sheet metal



6000 series aluminum sheet metal

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