

## SUMMARY OF TESTS

A wide variety of test methods have been developed for roofing materials and products. Some of the more commonly specified procedures are listed below, along with the general topic. They are listed in various categories even though there are no clear distinctions between them in many cases. This is particularly true when considering the influence of wind on structural performance, attachment to the deck and water infiltration. Due to copyright restrictions, please visit the test standard's web sites for an in-depth description.

**ASTM-** [www.astm.org](http://www.astm.org)

**Underwriter Laboratories-** [www.ul.com](http://www.ul.com)

**American Architectural Manufacturers Association-** [www.aamanet.org](http://www.aamanet.org)

**ICC Evaluation Service-** [www.icc-es.org](http://www.icc-es.org)

**FM Approvals-** [www.fmglobal.com](http://www.fmglobal.com)

### **Mechanical Property and Corrosion Tests of Materials**

ASTM E 8 – Tensile Test

ASTM G 155 – Accelerated Weathering

ASTM B117 – Salt Spray Test

### **Structural Tests**

ASTM E 72 – Various structural tests

ASTM E 330 – Curtain Walls, Windows, etc.

ASTM E 1592 – Metal Roof and Siding Systems

### **[Wind] Uplift Tests**

UL 580 – Roof Assemblies

UL 1897 – Roof Covering Systems

TAS 125 – Uplift

FMRC 4471 - Uplift

### **Wind Resistance Tests**

UL 997 – Roof Covering Materials

### **Air / Water Infiltration Tests**

ASTM E 283 – Air Leakage through Walls, etc.

ASTM E 331 – Water Penetration through Walls, etc.

ASTM E 1680 – Air Leakage through Metal Roofs

ASTM E 1646 – Water Penetration through Metal Roofs

TAS 100 – Wind Driven Rain

Metro-Dade PA 100 – Wind Driven Rain for Discontinuous Roofs

AAMA 501.1 – Wind Driven Rain

PA 114 – Leakage

### **Fire Resistance**

ASTM E 108 – Roof Coverings

UL 790 – Roof Coverings

ASTM E84 – Flame Spread

### **Hail/ Impact Tests**

UL 2218 – Prepared Roof Coverings

FM 4471 – Class 1 Metal Roofs

PA 201 – Impact

### **Foot Traffic Tests**

ICC-ES AC166, Paragraph 4.2 – Metal Roofing (previously ICBO AC166)

FM 4471 – Class 1 Metal Roofs

ASTM E 380 – Foot Traffic

Summary of Tests and Approvals

| Product                 | SKU                              | Load Tables | UL 790/ASTM E 108 | UL 580 | TAS 125 | PA 125 | UL 1897 | ASTM E 1592 | FMRC 4471 Uplift | ASTM E 330 | ASTM E 283 | ASTM E 331 | ASTM E 1646 | ASTM E 1680 | TAS 100 | PA 100-95 (R&D only) | AAMA 501.1 | PA 114 Leakage | UL 2218 | PA 201 Impact | ASTM E 84 Flame Spread | Paint Performance Tests | ASTM E 380 Foot Traffic | FMRC 4471 Foot Traffic | ICBO AC166 Penetration | ICC Report | FBC Approval | MCA Roofing Certification |
|-------------------------|----------------------------------|-------------|-------------------|--------|---------|--------|---------|-------------|------------------|------------|------------|------------|-------------|-------------|---------|----------------------|------------|----------------|---------|---------------|------------------------|-------------------------|-------------------------|------------------------|------------------------|------------|--------------|---------------------------|
| Monarch Batten Seam     | MRB                              | X           | X                 | X      |         |        |         |             |                  | X          | X          |            |             |             |         |                      |            |                | X       |               | X                      | X                       |                         |                        |                        |            |              | X                         |
| Dutch Seam              | MRD                              | X           | X                 | X      | X       |        |         | X           |                  | X          | X          |            |             |             | X       |                      | X          |                | X       |               | X                      | X                       |                         |                        | X                      |            | X            | X                         |
| Field-Lok Panel 2 3/8"  | FLS                              | X           |                   | X      |         |        | X       | X           | X                |            |            |            | X           | X           |         |                      |            |                |         |               | X                      | X                       |                         | X                      |                        |            | X            | X                         |
| Field-Lok Panel 2"      | FLR                              | X           | X                 | X      | X       |        | X       | X           |                  |            | X          | X          |             |             | X       |                      |            | X              |         | X             | X                      | X                       |                         |                        |                        |            |              | X                         |
| Field-Lok Panel 1 1/2"  | FLM                              |             | X                 | X      |         | X      | X       | X           |                  |            | X          | X          |             |             |         |                      |            |                | X       |               | X                      | X                       | X                       |                        |                        |            |              | X                         |
| Field-Lok Panel 1"      | FLL                              |             | X                 | X      |         |        | X       |             |                  |            |            |            |             |             |         |                      |            |                | X       |               | X                      | X                       |                         |                        |                        |            |              | X                         |
| PC Systems              | PCP                              |             | X                 | X      |         |        |         |             |                  |            | X          | X          |             |             |         |                      |            |                | X       |               | X                      | X                       |                         |                        |                        |            |              | X                         |
| Advanta Shingle         | HAS300                           |             | X                 | X      |         |        | X       |             |                  |            |            |            |             |             |         |                      |            |                | X       |               | X                      | X                       |                         | X                      | X                      | X          | X            | X                         |
| Standing Seam Shingle   | HSS                              |             | X                 | X      |         |        |         |             |                  |            |            |            |             |             |         | X                    |            |                | X       |               | X                      | X                       |                         |                        | X                      |            |              | X                         |
| Permaskake              | HPS106                           |             |                   |        |         |        |         |             |                  |            |            |            |             |             |         | X                    |            |                |         |               | X                      | X                       |                         |                        | X                      |            |              |                           |
| Rumba Shake             | HBS090                           | X           | X                 |        |         |        |         | X           |                  |            | X          | X          |             |             |         |                      |            |                | X       |               | X                      | X                       |                         |                        |                        |            |              |                           |
| Castletop Shingle       | HCT160                           |             | X                 |        |         |        | X       |             |                  |            |            |            |             |             |         | X                    |            |                | X       |               | X                      | X                       |                         |                        | X                      |            | X            | X                         |
| Granutile               | HGT144                           |             |                   | X      | X       |        | X       |             |                  |            |            |            |             |             |         | X                    |            |                |         |               | X                      |                         |                         |                        | X                      |            | X            |                           |
| ScanRoof                | SCP163                           |             | X                 | X      | X       |        |         |             |                  |            |            |            |             |             | X       |                      |            |                | X       |               | X                      | X                       |                         |                        | X                      | X          | X            | X                         |
| Techo Tile              | SCT400                           |             | X                 | X      | X       |        | X       |             |                  |            |            |            |             |             | X       | X                    |            |                |         |               | X                      | X                       |                         |                        | X                      |            | X            | X                         |
| Multi-Purpose           | MP                               | X           | X                 | X      |         |        |         |             |                  |            | X          | X          |             |             |         |                      | X          |                | X       |               | X                      | X                       |                         |                        |                        |            |              |                           |
| Corra-Lok               | MFC                              | X           |                   |        |         |        |         |             |                  |            |            |            |             |             |         |                      |            |                |         |               | X                      | X                       |                         |                        |                        |            |              |                           |
| Metafor                 | MFP120                           | X           |                   |        |         |        |         |             |                  |            |            |            |             |             |         |                      |            |                |         |               | X                      | X                       |                         |                        |                        |            |              |                           |
| Rigid Wall              | MFR160                           | X           |                   |        |         |        |         |             |                  |            | X          | X          |             |             |         |                      |            |                |         |               | X                      | X                       |                         |                        |                        |            |              |                           |
| Design System           | DS                               | X           | X                 |        |         |        |         |             |                  |            | X          | X          |             |             |         |                      |            |                |         |               | X                      | X                       |                         |                        |                        |            |              |                           |
| Opaline                 | OP                               | X           |                   |        |         |        |         |             |                  |            |            |            |             |             |         |                      |            |                |         |               | X                      | X                       |                         |                        |                        |            |              |                           |
| Belvedere               | BW                               | X           | X                 |        |         |        |         |             |                  |            | X          | X          |             |             |         |                      |            |                |         |               | X                      | X                       |                         |                        |                        |            |              |                           |
| InSpire                 | BWS390                           | X           |                   |        |         |        |         |             |                  |            |            |            |             |             |         |                      |            |                |         |               | X                      | X                       |                         |                        |                        |            |              |                           |
| Versa-Lok               | VSL                              |             |                   |        |         |        |         |             |                  |            |            |            |             |             |         |                      |            |                |         |               | X                      | X                       |                         |                        |                        |            |              |                           |
| Versa-Seam              | VSS                              |             |                   |        |         |        |         |             |                  |            |            |            |             |             |         |                      |            |                |         |               | X                      | X                       |                         |                        |                        |            |              |                           |
| Arc-Metafor             | MFX120                           | X           |                   |        |         |        |         |             |                  |            |            |            |             |             |         |                      |            |                |         |               | X                      | X                       |                         |                        |                        |            |              |                           |
| Curved PC System        | PCX999                           |             | X                 | X      |         |        |         |             |                  |            | X          | X          |             |             |         |                      |            |                | X       |               | X                      | X                       |                         |                        |                        |            |              |                           |
| Curved Standing Seam    | FLX                              |             | X                 | X      |         |        |         |             |                  |            | X          | X          |             |             |         |                      |            |                | X       |               | X                      | X                       |                         |                        |                        |            |              |                           |
| Curved Corrugated Panel | BWX374                           | X           | X                 |        |         |        |         |             |                  |            |            |            |             |             |         |                      |            |                |         |               | X                      | X                       |                         |                        |                        |            |              |                           |
| Ceiling and Soffit      | LCR,<br>LCB,<br>MPV120<br>MPS120 | X           |                   |        |         |        |         |             |                  |            |            |            |             |             |         |                      |            |                |         |               | X                      | X                       |                         |                        |                        |            |              |                           |