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| <b>DOCUMENT NO:</b> MG-004 | <b>TITLE:</b> Measurement Guidelines for Spiders | <b>PAGE:</b> 1 of 1 |
| <b>APPLICATION:</b>        | <b>REVISION:</b> DRAFT                           | <b>DATE:</b> 1/6/08 |

| <b>Feature</b>         | <b>Measurement Method</b> | <b>Measurement Device (Reference)</b>   |
|------------------------|---------------------------|---|
| Land O.D. Size         |                           | Steel Rule or Scale   |
| Land O.D. Position     |                           |   |
| Cup O.D.               |                           | Dial or Digital Caliper   |
| Land I.D. Size         |                           | Dial or Digital Caliper   |
| Land I.D. Position     |                           |   |
| Neck I.D.              | TM-406                    | Tapered Gauge<br>Dial or Digital Caliper  |
| Overall Height         |                           | Height Gauge  |
| Shoulder Height        |                           | Dial or Digital Caliper   |
| Mounting Height        |                           |   |
| Mounting Depth         |                           |   |
| Neck Height            |                           | Height Gauge  |
| Neck Depth             |                           | Height Gauge  |
| Corrugation Height     |                           | Optical Comparator  |
| Corrugation Radius     |                           | Optical Comparator  |
| Material Thickness     | ASTM D1777                |   |
| Deflection             | TM-438                    | Mass(es) or Electronic Force Gauge<br>Micrometer or Stepper Motor System<br>Mounting Apparatus/Fixture<br>Matched Clamp Rings<br>Center Plug/Cap<br>Detector or Data Acquisition Computer |
| Measurement Clamp I.D. |                           |   |
| Land Flatness          |                           |   |
| Mass                   |                           |   |

### Revision History

| <b>Rev Level</b> | <b>Description of Change</b>                                    | <b>Prepared/ Changed By/ Date</b> | <b>Approved By/ Date</b>    |
|------------------|---|-----------------------------------|-----------------------------|
| DRAFT            | Create document   | Brian Sterling<br>6/26/03         | ALMA<br>Committee<br>1/7/04 |
| DRAFT            | Change "WI" to "TM", add/revise Measurement Methods and Devices | Brian Sterling<br>1/6/08          | ALMA<br>Committee<br>1/6/08 |