Materials used for spherical probes

Ruby
As the hardest of all probe element materials, ruby is the perfect all-round material. Spherical probes made of ruby have been used for most standard applications. The low specific density of ruby enables the mass of the stylus tip to be kept as small as possible. This effectively allows the elimination of false triggers caused by mass inertia when the CMM moves.

Zirconium oxide
Because of the specific surface properties of balls made of zirconium oxide - a ceramic compound – it is ideally suited for aggressive scanning of abrasive surfaces, such as workpieces made of cast iron. Zirconium oxide has virtually the same hardness and wear-resistant properties as ruby.

Silicon nitride
Silicon nitride is extremely hard and wear-resistant with the lowest surface roughness of all ball materials. Specific advantage: Silicon nitride is resistant to absorbing aluminum from workpiece surfaces.
The Mitutoyo Eco-Fix Clamping System for modular CMM and vision product workholding setups work well for different part sizes/types and environments. The design combines operational modularity advances with lower-cost solutions. This can be found both in the reduction or elimination of hard fixturing costs and setup time. This system is comprised of well-marked, color-coded components designed to simplify part measurement requirements. Magnetic or threaded fastening points deliver fast, plug-and-play connectivity. First-time fixturing jobs can be established and reconfigured in a matter of minutes for quick turnaround for future part measurement. Or, as needed, fixtures can be built and stored to meet all common part measurement requirements. Base plates are hard-coated and other components are machined for durability.

The entry-level Mitutoyo Eco-Fix Kit S version is comprised of a 250mm x 250mm base plate footprint and 59 total components in the system. The Eco-Fix Kit L is a larger version and built for more complex part fixturing applications (measuring 500mm x 400mm in base plate footprint and a total of 98 total components in the system).
People – Quality starts with our people. Our team is comprised of the best and the brightest in the industry.

Confidence – Confidence you have each time you rely on a Mitutoyo product.

Reliability – Reliability of the product that you use many times every day.

Accuracy – Accuracy you need to preserve tight machining tolerances.

Relationship – Relationship you have formed with Mitutoyo staff and distributors.

Longevity – Longevity of a tool or instrument that maintains factory specifications.

Savings – Savings that are realized by implementing metrology solutions that reduce production costs.

Feel – Feel of a caliper or micrometer that you have come to expect.

Pride – Pride you feel when you produce the best manufactured product possible.