

THE SCIENCE BEHIND THE SURFACE

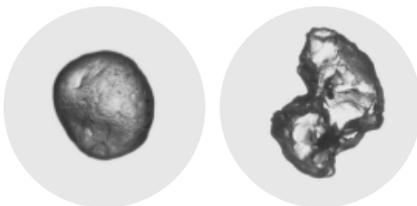


SAND INFILL SHAPE & WHY IT MATTERS

Did you know that there are different shapes of sand? Sand can have different particle sizes, distributions and different shapes depending on where it came from. There are two factors that play into determining sand particle shape; the roundness and the sphericity. In other words, how round and how spherical is each tiny particle of sand? The chart below offers a quick and easy reference guide to estimate the two-dimensional particle shape, although the comparisons can be subjective.

ROUNDNESS CLASSES	VERY ANGULAR	ANGULAR	SUB-ANGULAR	SUB-ROUNDED	ROUNDED	WELL ROUNDED
HIGH SPHERICITY						
LOW SPHERICITY						
ROUNDNESS INDICES	0.12 - 0.17	0.17 - 0.25	0.25 - 0.35	0.35 - 0.49	0.49 - 0.70	0.70 - 1.00

*Chart for estimating roundness and sphericity of sedimentary particles based upon comparisons with particles of known sphericity and roundness (based on Powers Scale of Roundness)



The two images show particles of sand under a microscope. One particle is rounded and highly spherical while the other would be considered sub-angular with low sphericity. You can see in the visual how this dramatic difference could impact the way that the infill performs when placed in an artificial turf installation.

The shape of the sand affects your artificial turf playing surface in a number of ways. Angular sand has sharper edges. This type of sand can be dangerous to both the athletes and to your field's fibers. If the angular sand is kicked up during play it can become a risk to damaging the athlete's eye, the sharp edges on the sand can also cut into the fibers degrading the quality of the playing surface. Another issue seen from angular sand particles is that they can lock together creating a concrete like layer causing drainage issues and make the field harder.

Shaw Sports Turf sources rounded, spherical sand to use in our synthetic turf installations because it is the safer option, it mixes better with crumb rubber for playability and allows for better field drainage.