



TruTex Sand Data - Guide for sourcing new sand

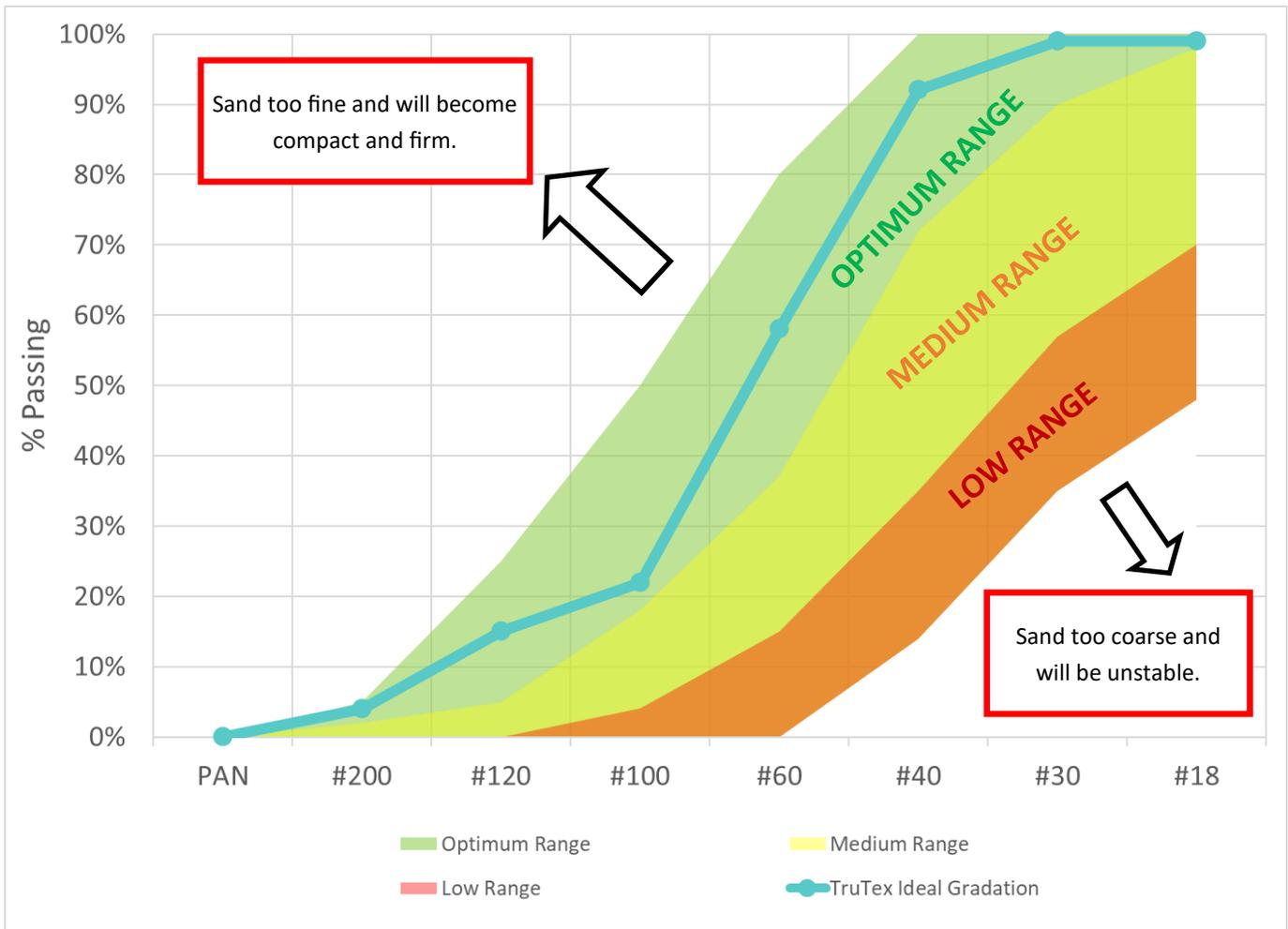
TruTex offers a range of footing products designed to operate with sands that can typically be sourced from your local sand supplier or will work with your existing arena sand. If you are building a new arena however, there is still an optimum range of sand you should try and select to get the best results.

Sub-angular to sub-rounded sands work best and the graph below shows the ideal gradation of particles within the sand.

[TruTex Oasis](#) should only be used with sands in the optimum and upper medium range.

[TruTex Eclipse](#) will work well with sands in the optimum and medium ranges.

[TruTex Element](#) will work with sands in all three ranges.



Sieve Size [ASTM / US]	#200	#120	#100	#60	#40	#30	#18
Sieve Size [mm]	0.075	0.125	0.150	0.250	0.425	0.600	1.000
Optimum Range	2 - 5%	5 - 25%	18 - 50%	37 - 80%	72 - 100%	90 - 100%	98 - 100%
Medium Range	0 - 2%	0 - 5%	4 - 18%	15 - 37%	35 - 72%	57 - 90%	70 - 98%
Low Range	-	-	0 - 4%	0 - 15%	14 - 35%	35 - 57%	48 - 70%



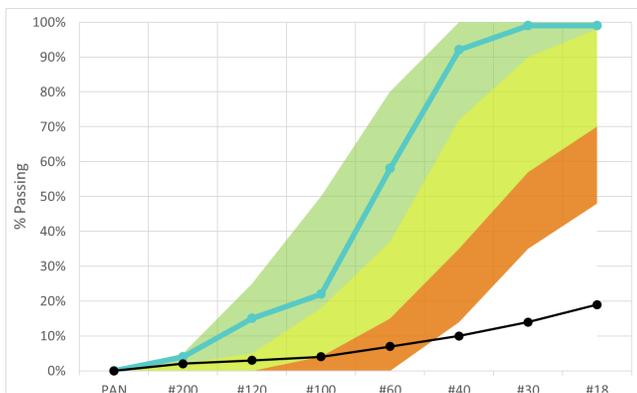
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HOW TO USE AND INTERPERET THE GRAPH ON PAGE 1 - Start by narrowing down your sand options by requesting a finer, sub-angular sand. There is no such thing as “arena sand” and sand names can vary widely from one quarry or state to the next. That’s why it’s always better to go by the sand data rather than just by the name of a sand to ensure accuracy.

Manufactured sands (such as crushed limestone) should be avoided as the footing layer as they tend to compact too easily and break down more quickly than natural sands, thus requiring a lot of extra maintenance that could be avoided. Sands with a high silica content will be the most durable but river rock sands that meet the gradation and particle shape criteria described in this guide can also produce excellent results.

Your sand provider or local quarry should be able to produce a grading curve for the sands they have available or you can request their sand data sheets and plot the values on the graph above yourself for comparison. The aim is to select a sand as close to the “TruTex Ideal” gradation line as possible.

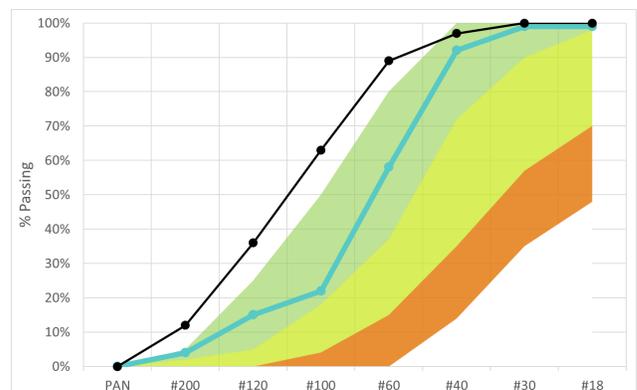
The % values represent the cumulative % of sand that passes through each sieve mesh size and the sieve numbers represent the sizes of the sieves (with #200 being a very fine sieve and #18 being very coarse).



Sand will be very loose & unstable

On the other hand, sands with too high of a percent- age of fines will have a tendency to compact easily and become too firm. (see example to the right)

The gradation of the sand (combined with particle shape and minerology) indicates what the characteristics of that sand will be, for example - sands that have a higher % of coarser particles and a lower percentage of finer particles will tend to be less stable as there is too much void space between the grains, allowing them to shift around too easily. (see example to the left)



Sand will become very firm

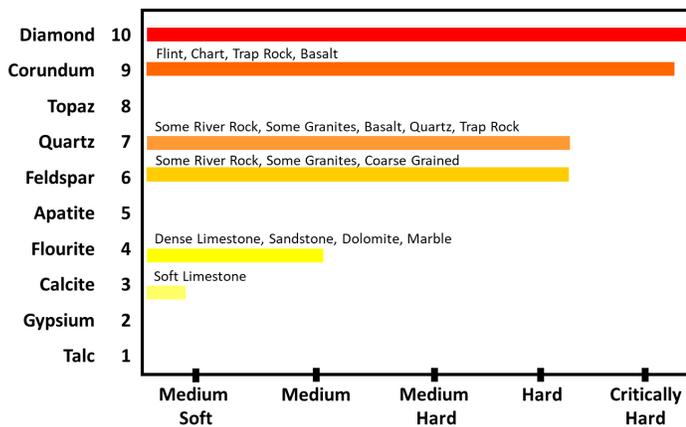


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So, you thought you were done when you found a sand made up from the right particle sizes with good gradation. Close.... But here are a few more factors to consider.

Mineralogy

Mineralogy might be a big word but really its just the technical term for the types of minerals the sand is composed of. The hardness of those minerals will dictate how durable and long lasting the sand will be.



Silica and Quartz are make very durable sands since they are particularly hard minerals, however, they are only available in certain regions of the United States and so trucking them to your arena location can get expensive. River rock sands can also produce excellent results if they meet the other criteria in this document and are often a more affordable option.

Particle Shape

Particle shape affects the stability of the sand as it impacts how well the particles will inter-lock with each other.

Angular sand particles will lock together very easily and could have a tendency to become overly compact and firm, particularly for a daily training surface.

Sub-Angular to sub-rounded particles are the ideal shape for healthy performance. They will nest together well while still maintaining enough void space to provide cushion.

Rounded particles will not nest together and will roll around easily like tiny marbles. This makes the surface unstable as it shifts around too easily.

