

# How to Choose the Right Screen Mesh Size

**Information about frame type.** we provides high quality aluminum pre-stretched screens in various sizes and mesh counts. All aluminum frames are extruded with the highest grade aluminum and cut and welded right here in the China. Once welded, the frames are then sandblasted to insure mesh bonds properly to the aluminum and retain its tension through thousands of imprints. Screens are stretched pneumatically to industry standard tensions using high grade mono filament poly mesh and held using cyanoacrylate glue.

**More about aluminum frames.** The advantage of an aluminum screen printing frame is the durability and longevity it retains. Unlike wood silk screen printing frames, when exposing frames to water in a dip tank or washout sink aluminum frames will not warp. This will insure a flat frame through thousands of prints to come. Aluminum frames can also be stretched and re-stretched many times. The mesh and glue are simply removed from the frame using a professional tool that doesn't damage the aluminum. Once cleaned, the frames can then be re-stretched which will give you the ability to use that frame for years of hard work in your shop. Aluminum frames are also light weight which makes shipping less expensive and saves you money in the long run. If you're looking to maximize performance in your shop, aluminum frames are a great item to add to your screen printing equipment.

**More about screen printing mesh size:** Different mesh sizes are used for different applications in the screen printing process. Mesh size is measured by how many threads of mesh there are crossing per square inch. For instance, a 110 mesh screen has 110 threads crossing per square inch. The higher the mesh count, the finer the threads and holes are in the screen. The size of the mesh has a lot to do with how detailed your image is and how thick the ink you are using is. If you have an image with extremely high detail, a lower mesh screen won't hold the high detail. The fine lines or dots in the image will simply fall through the holes in the mesh not giving you a correct representation of what your image should be. Also if you are using a thinner ink, the ink will also flood through the larger holes and soak onto your shirt or substrate making your image blurry as the ink bleeds. On the other hand, if you are trying to print a thicker ink (such as white) through to high of a mesh screen, barely any ink will print through the mesh. You will notice that different companies have different sizes available. If the mesh count is fairly close, such as the difference between 155 vs. 156, 196 vs. 200, or 81 vs. 86, the difference is so negligible and small that it will not matter in your final results. Since there are many variables involved in silk screen printing we can't tell you exactly what mesh sizes are used for what applications. However we can give you a general outline of what sizes to use for certain types of printing.

Your basic and most standard mesh sizes are 110 and 160. 110 mesh lays a fairly thick layer of ink down. It's great for block text letters and larger spot color designs. It's also a recommended mesh for white flash plates because many times you will only have to make one print impression which speeds up production time. 160 mesh also lays down a little thicker layer of screen printing ink but offers you some higher detail ability in your image due to the finer mesh. Also if you are printing with a little thinner viscosity colors of inks, you may want to use the 160 mesh so not too much ink is passed through your screen. Lower mesh counts like 40-80 are used for shimmer and glitter inks. These inks have particles in them that will not pass through the typical mesh sizes. Therefore you need a lower mesh count with large holes in order for all the particles to pass through properly. Shimmer plastisol inks have finer particles in them so you could probably use an 80 mesh while glitter inks have much larger particles so it would be recommended to use a 40 or 60 mesh screen. 200 and 230 mesh are used for finer detailed images and thinner inks. These mesh sizes can hold larger half tone dots but are not recommended for four color process prints or fine detail half tone printing. Also graphic and solvent based silk screening inks that are much thinner should be used with these mesh sizes. Also if you would like a softer feel to the ink on your shirts you can print through these higher mesh counts which will let less ink through the screen giving you a much softer feel on the shirt. This can get tricky however, many times a duller distressed look is wanted for the artwork but if bright vibrant colors are desired (especially white) you will have a hard time getting the opacity thick enough using these higher meshes. 305 mesh is used for extremely high detail textile printing and fine halftone four color process and simulated process prints. (Learn more about process printing here.) Fine half tone dots need high fine detail mesh in order to hold and expose on. Higher meshes such as 355, 380, and 420 are used mainly for graphic printing with UV inks. UV inks are extremely thin and many times are used for high detail printing on signs, banners, or CD's. Using a higher mesh allows the automatic printers used in UV printing to regulate the amount of ink passed through the screen.

**Exposure Notes:** Different mesh sizes hold different amounts of emulsion, due to how big the holes in the mesh are. For instance a 110 mesh screen will hold much more emulsion than a 305 mesh screen. While the difference isn't extreme, you will have to vary your exposure times slightly for different mesh sizes. A finer mesh screen that holds less emulsion will expose faster than a lower mesh screen that holds more emulsion. However, the difference is small so you may have to only vary as slightly as 5-10% in either direction and depending on mesh size in order to get maximum exposure performance.