



Suggested Pin Diameters for Optimal Focus (focal length) for Pinhole Cameras

Focal Length cm	Focal Length in.	Pin Size	Pin Diameter mm
3.5	1 ¼	000	0.25
5.6	2	00	0.30
6.9	2 ½	0	0.35
9.0	3 ½	1	0.40
11.4	4 ½	2	0.45
14.1	5 ½	3	0.50
17.0	6 ½	4	0.55
20.2	8	5	0.60
23.4	9	6	0.65

Focal Length as defined here is the distance from the pinhole at the front of the camera to rear where the photographic film or paper is placed.

This is the distance of best theoretical focus of the pinhole camera's image with a pinhole of particular diameter. Note: The actual pinhole size/aperture made with a particular pin will likely be slightly larger than the diameter of the pin shaft.

A small diameter pinhole has a shorter effective focal length; however smaller diameter pinholes will also require longer exposure times than larger pinholes. Depending on your photographic/artistic goals (ultra-sharp focus may not be required, or even desired) you may wish to choose a larger pinhole and give up some sharpness for faster more practical exposure times.

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Content Courtesy of Dan Pickard - Roosevelt High School - Seattle, WA