

Flash Guide Numbers.

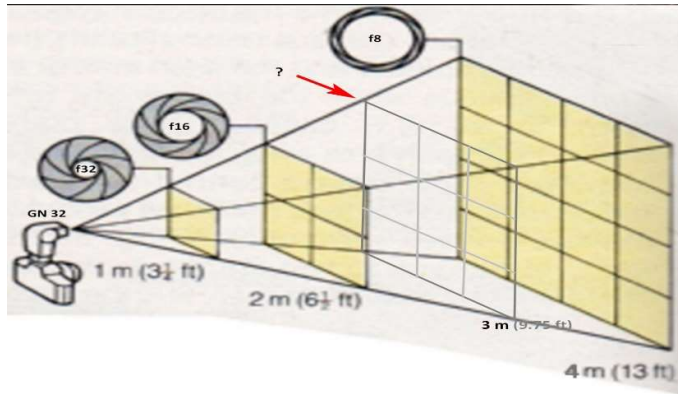
Give you an indication of the power output of the flash.

Guide Number = Distance x f stop. So, Guide Number/ Distance = f stop

You Do not have to worry about it too much but basically if the flash guide number measured at 20 (Meters at ISO 100), at 20 Meters the Lens Aperture would need to be f 1. Not many lenses are that good so to be effective in illuminating anything This Flash needs to be as close to the subject as 5 meters.

$20/5 = f 4$

It is all connected to the Inverse Square Law which works for light, sound and if you are spraying something.



If you intensify the light beam by narrowing it with a lens or reflector the Guide Number goes up. If you reduce the power output of the flash you reduce the Guide Number

Focal length/ zooming position	85mm	70mm	50mm	35mm	28mm	24mm	
(M1 / 1) (=FULL)	50	47	42	36	32	30	With ISO100
(M1 / 2)	36	33	30	25	22	21	
(M1 / 4)	25	23	21	18	16	15	
(M1 / 8)	18	16.5	15	12.5	11	10.5	
(M1 / 16)	12.5	11.5	10.5	9	8	7.5	
(M1 / 32)	9	8	7.5	6	5.5	5	

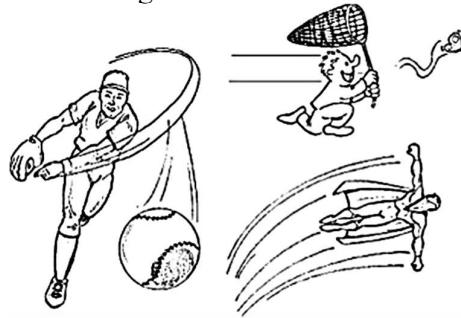
The Guide Number changes with the ISO:

ISO	DIN	Guide N° (m)	Guide N° (ft)
25	15	10	32
50	18	14	45
100	21	20	64
200	24	28	91
400	27	40	128
800	30	57	181

Second Curtain Flash:

If you close your eyes when watching something that is moving your memory immediately records the direction the thing was moving and its final position. Recalling the detail of where the object started and the track it followed usually takes a bit of thought.

Cartoon artists depict the movement using lines to indicate where the item has travelled.



In a similar way, to show this movement in a photograph you can add blur.



The blur needs to show the direction of movement.

So, adding blur but freezing the detail with a burst of flash seems a good idea.

However, when the flash goes off normally it is as soon as the shutter is fully open which puts the blur after the sharper image of the subject.



If the flash is fired at the end of the exposure (second curtain) the blur is correct to show the direction of movement.

It can be confusing when TTL flash is used because a pre-flash is fired to set the flash exposure.

