

# > PERFORMANCE-FACTOR (P)

## WEIGHT

**m = Mass of the complete brake unit in kg**

(The smaller the weight value the higher the index)

## STABILITY

**S = Stability coefficient in min.**

(High heat stability = high index. The time is measured up to failure in Minutes with 800 W constant brake. Failure = Boiling fluid and pressure loss, fading with more than 2/3 performance loss, brake line melting point, pads worn, disk failure, mechanical damage)

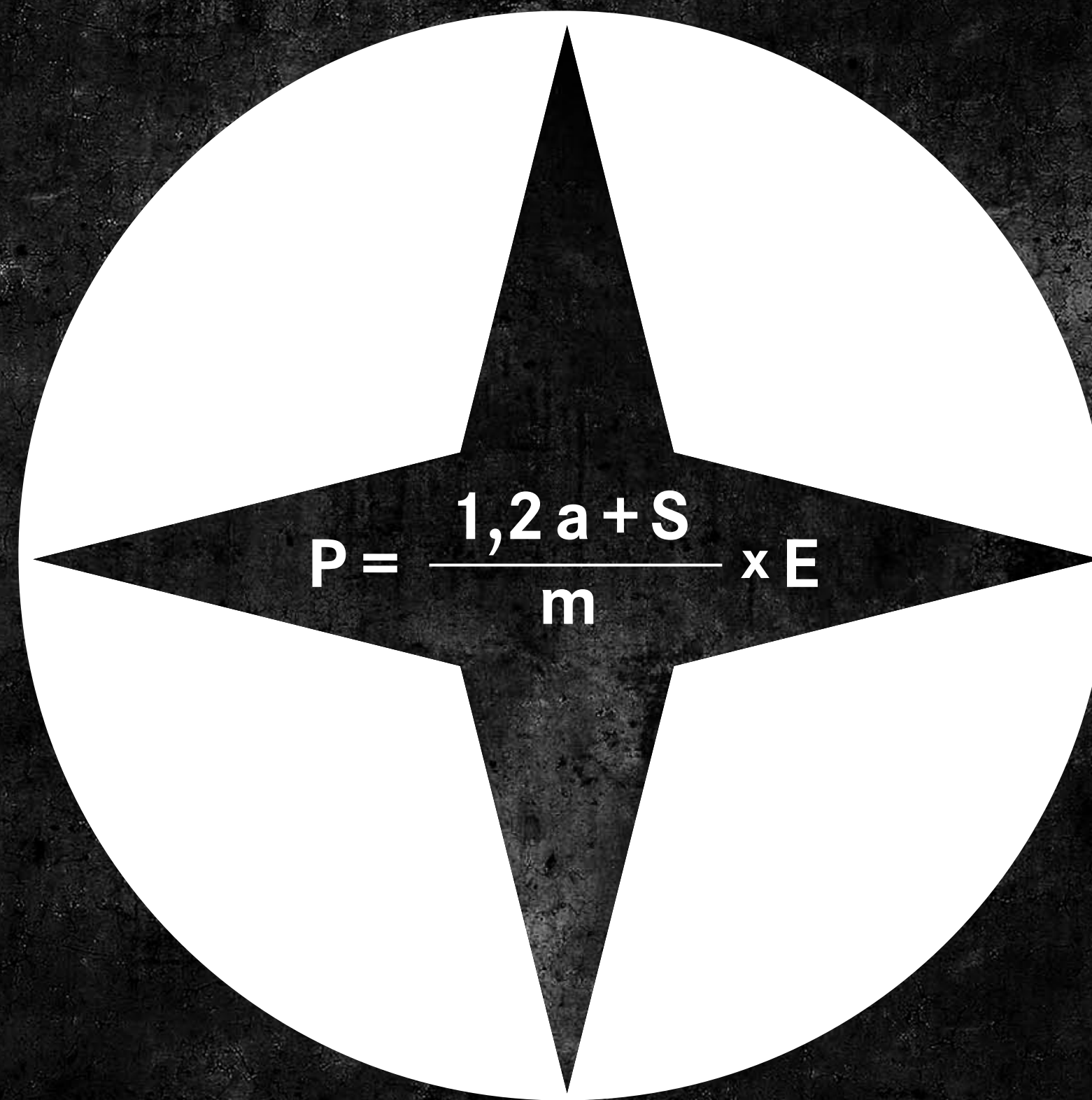
| S-value | min.        |
|---------|-------------|
| 0       | 1 x 5       |
| 2       | 1 x 10      |
| 4       | 1 x 15      |
| 6       | 1 x 15 + 5  |
| 8       | 1 x 15 + 10 |
| 10      | 2 x 15      |

## DECELERATION

**a = Braking coefficient in m/s<sup>2</sup>**

(This factor is multiplied by 1.2 (plus 20% over the other factors) as it is the predominant factor when it comes to the overall performance of a brake. Deceleration on a dry surface with 100 N hand force, directed 25 mm below the end of the lever. Below a certain deceleration value the coefficient becomes worse, as control and modulation become more difficult to deal with for a normal rider)

| a-value | m/s <sup>2</sup> |
|---------|------------------|
| 1       | <= 3,0           |
| 2       | > 3,0 - 3,5      |
| 3       | > 3,5 - 4,0      |
| 4       | > 4,0 - 4,5      |
| 5       | > 4,5 - 5,0      |
| 6       | > 5,0 - 5,5      |
| 7       | > 5,5 - 6,0      |
| 8       | > 6,0 - 6,4      |
| 9       | > 6,4 - 6,8      |
| 10      | > 6,8 - 7,2      |
| 9       | > 7,2 - 7,6      |
| 8       | > 7,6 - 8,0      |
| 6       | > 8,0            |



## ERGONOMICS

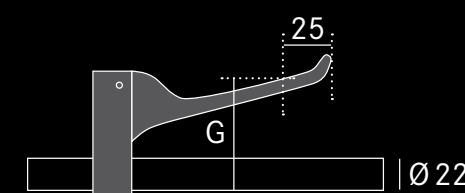
**E = Ergonomic coefficient**

(Ergonomic lever + positioning of lever at pressure point + large adjustment availability = high index. Developed with Prof. Schmauder from the Technical University of Dresden to allow an evaluation for the ergonomics of a brake)

$$E = 1 + \frac{(e_1 + e_2 + e_3)}{100}$$

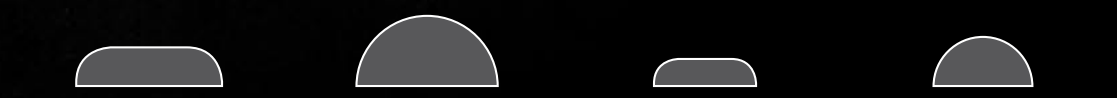
e<sub>1</sub> = Reach distance value  
e<sub>2</sub> = Lever-cross-section at the point of force input  
e<sub>3</sub> = Lever position at pressure point

| e <sub>1</sub> -value | Reach distance G |
|-----------------------|------------------|
| 10                    | 95 - 60          |
| 8                     | 85 - 60          |
| 6                     | 75 - 60          |
| 5                     | 95 - 70          |
| 4                     | 95 - 80          |
| 0                     | without          |



**e<sub>2</sub>-value**

| 10          | 8            | 6          | 4           |
|-------------|--------------|------------|-------------|
| broad, flat | broad, round | slim, flat | slim, round |



**e<sub>3</sub>-value**

| 10       | 6         | 2          |
|----------|-----------|------------|
| parallel | ascending | descending |

