

## FAQ\_BM\_002 - Formula of the Welding Speed and the Welding Frequency

The formula for the correct welding speed setting is as follows:

$n \times (Z_h + 2) = v_s$	<p>n = Number of cans per minute (in 1/min)                  Z<sub>h</sub> = Body height (in mm)                  v<sub>s</sub> = Welding speed (in m/min)                  2 = Safety gap (in mm)</p>
<p><b>Example</b></p>	<p>n=100/min                  Z<sub>h</sub> = 180 mm</p> <p>100 x (180 + 2) (1/min x mm) =                  100 x 182 (mm/min) = <b>18,2 m/min</b></p>

When you have calculated the welding speed with the above formula and have welded a few containers, you can reduce it slowly until the tin impression on the copper wire has a clearance of the said 1-2 mm.

Guideline for the Welding Frequency Value:

$f = \frac{v_s}{60 \times 2 \times a}$	<p>f = Frequency in Hz (1/sec.)                  v<sub>s</sub> = Welding speed (in mm/min)                  60 = Conversion min. in sec.                  2 = 2 Welding points per sinus curve                  a = Distance betw. 2 welding points (in mm)</p>
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The point distance of 0.8 mm applied in this formula only serves as an approximate value.

<p><b>Example</b></p>	$f = \frac{18200 \text{ mm/min}}{60 \times 2 \times 0.8\text{mm}} = 190 \text{ Hz}$
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**NOTE:**  
 If possible, endeavour to produce one single frequency for all your applications, and to influence the welding results by changing the welding current and, if necessary, also the welding frequency.