

## GENERAL CONVERSION FACTORS FOR COMMON WELDING TERMS

| PROPERTY                                       | TO COVERT FROM        | TO                 | MULTIPLY BY                  |
|--|-----------------------|--------------------|------------------------------|
| area dimensions<br>(mm <sup>2</sup> )          | in. <sup>2</sup>      | mm <sup>2</sup>    | 6.451 600x 10 <sup>2</sup>   |
|  | mm <sup>2</sup>       | in. <sup>2</sup>   | 1.550 003 x 10 <sup>-3</sup> |
| current density                                | A/in. <sup>2</sup>    | A/mm <sup>2</sup>  | 1.550 003 x 10 <sup>-3</sup> |
|  | A/mm <sup>2</sup>     | A/in. <sup>2</sup> | 6.451 600 x 10 <sup>2</sup>  |
| deposition rate<br>(approximate<br>conversion) | lb/h                  | kg/h               | 0.45                         |
| electrode force                                | pound-force           | N                  | 4.448 222                    |
|  | kilogram-force        | N                  | 9.806 650                    |
|  | N                     | lbf                | 2.248 089 x 10 <sup>-1</sup> |
| flow rate (L/min)                              | ft <sup>3</sup> /h    | L/min              | 4.719 475 x 10 <sup>-1</sup> |
|  | gallon per hour       | L/min              | 6.309 020 x 10 <sup>-2</sup> |
|  | gallon per minute     | L/min              | 3.785 412                    |
|  | L/min                 | ft <sup>3</sup> /h | 2.118 880                    |
| heat input                                     | J/in.                 | J/m                | 3.937 008 x 10               |
|  | J/m                   | J/in.              | 2.540 000 x 10 <sup>-2</sup> |
| impact energy                                  | foot pound force      | J                  | 1.355 818                    |
| linear<br>measurements                         | in.                   | mm                 | 2.540 000 x 10               |
|  | ft                    | mm                 | 3.048 000 x 10 <sup>2</sup>  |
|  | mm                    | in.                | 3.937 008 x 10 <sup>-2</sup> |
|  | mm                    | ft                 | 3.280 840 x 10 <sup>-3</sup> |
| power density                                  | W/in. <sup>2</sup>    | W/m <sup>2</sup>   | 1.550 003 x 10 <sup>3</sup>  |
| pressure (gas and<br>liquid)                   | W/mm <sup>2</sup>     | W/m <sup>2</sup>   | 6.451 600 x 10 <sup>-4</sup> |
|  | psi                   | Pa                 | 6.894 757 x 10 <sup>-3</sup> |
|  | lb/ft <sup>2</sup>    | Pa                 | 4.788 026 x 10               |
|  | N/mm <sup>2</sup>     | Pa                 | 1.000 000 x 10 <sup>6</sup>  |
|  | kPa                   | psi                | 1.450 377 x 10 <sup>-1</sup> |
|  | kPa                   | lb/ft <sup>2</sup> | 2.088 543 x 10               |
|  | kPa                   | N/mm <sup>2</sup>  | 1.000 000 x 10 <sup>-3</sup> |
|  | torr (mm Hg at 0°C)   | kPa                | 1.333 22 x 10 <sup>-1</sup>  |
|  | Micron (µm Hg at 0°C) | kPa                | 1.333 22 x 10 <sup>-4</sup>  |
|  | kPa                   | torr               | 7.500 64 x 10                |
|  | kPa                   | micron             | 7.500 64 x 10 <sup>3</sup>   |
| tensile strength<br>(MPa)                      | psi                   | kPa                | 6.894 757                    |
|  | lb/ft <sup>2</sup>    | kPa                | 4.788 026 x 10 <sup>-2</sup> |
|  | N/mm <sup>2</sup>     | MPa                | 1.000 000                    |
|  | MPa                   | psi                | 1.450 377 x 10 <sup>2</sup>  |
|  | MPa                   | lb/ft <sup>2</sup> | 2.088 543 x 10 <sup>4</sup>  |
| thermal conductivity<br>(W/(m · K))            | Cal/(cm · s · °C)     | W/(m · K)          | 4.184 000 x 10 <sup>2</sup>  |
|  | mm/s                  | mm/s               |                              |
| travel speed, wire<br>feed speed (mm/s)        | in./mm                | mm/s               | 4.233 333 x 10 <sup>-1</sup> |
|  | mm/s                  | in./min            | 2.362 205                    |

Data contained in this publication are typical of the products and properties described, but are not suitable for specifications.  
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