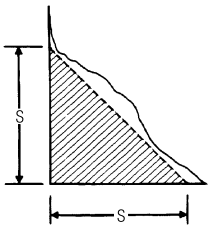
4-14 溶接換算率

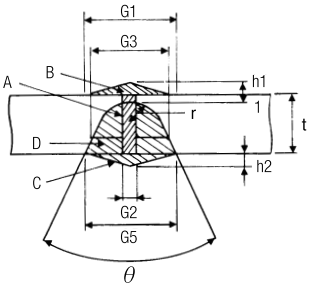
(1) すみ肉溶接



$$K=\frac{A}{21.78}$$

$$A=\frac{1.1^2\times S^2}{2}=\frac{1.21S^2}{2}$$

(2) I形グルーブ溶接



$$K=\frac{A+B+C+D}{21.78}$$

$G1=G5$

$G3=2\cdot r/\cos(\frac{\theta}{2})$

$G5=G3+2\cdot(t-r-1)\cdot\tan(\frac{\theta}{2})$

$A=G2\cdot t$

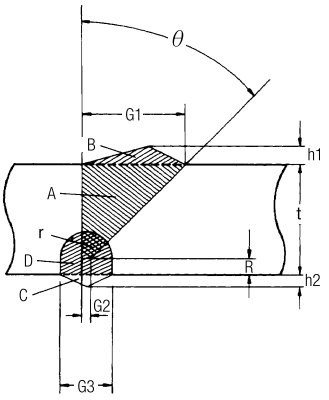
$B=\frac{G1\cdot h1}{2}$

$C=\frac{G5\cdot h2}{2}$

$D=\frac{\pi\cdot r^2}{2}\cdot\frac{(180^\circ-\theta)}{180^\circ}+r^2\tan(\frac{\theta}{2})+\frac{(G3+G5)\cdot(t-r-1)}{2}$

寸	法
G2	t/3ただし2以下
θ	50°
h1	3
h2	3
r	t≦9 … 4
	t＞9 … 6

(3) レ形グルーブ溶接



$$K=\frac{A+B+C+D}{21.78}$$

$$A=\frac{(t-R)\cdot(G1+G2)}{2}$$

$$B=\frac{G1\cdot h1}{2}$$

$$C=\frac{G3\cdot h2}{2}$$

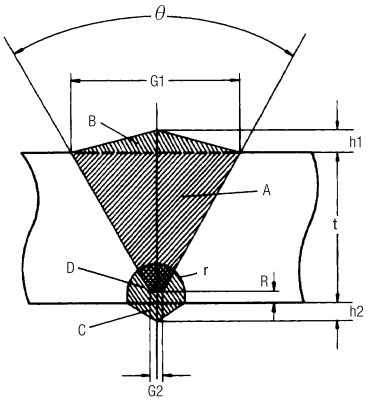
$$D=\frac{\pi r^2}{2}+2\cdot r\cdot R$$

$G1=(t-R)\cdot\tan\theta+G2$

$G3=2\cdot r$

寸	法
G2	2
θ	45°
h1	3
h2	3
R	2
r	t≦9 … 4
	t＞9 … 6

(4) V形グルーブ溶接



$$K=\frac{A+B+C+D}{21.78}$$

$$A=\frac{(t-R)\cdot(G1+G2)}{2}$$

$$B=\frac{G1\cdot h1}{2}$$

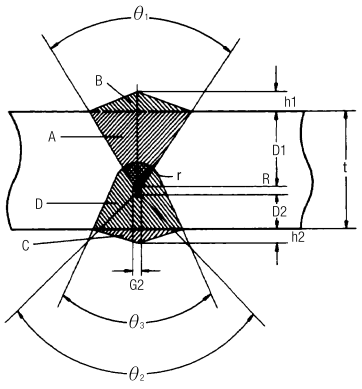
$$C=\frac{2\cdot r\cdot h2}{2}$$

$$D=\frac{\pi r^2}{2}+2\cdot r\cdot R$$

$G1=2(t-R)\tan\frac{\theta}{2}+G2$

寸	法
G2	2
θ	60°
h1	3
h2	3
R	2
r	t≦9 … 4
	t＞9 … 6

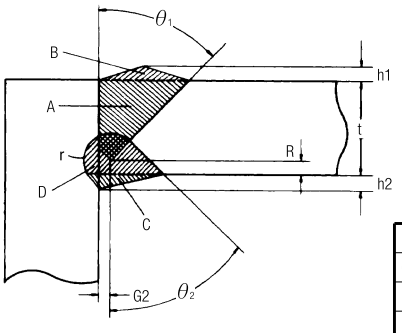
(5) X形グルーブ溶接



$$K=\frac{A+B+C+D}{21.78}$$

寸	法
G2	2
θ_1	60°
θ_2	90°
θ_3	50°
h1	3
h2	3
R	2
r	6
D1	2/3(t−R)
D2	1/3(t−R)

(6) レ形かど継手溶接



$$K=\frac{A+B+C+D}{21.78}$$

寸	法
G2	2
θ_1	45°
θ_2	45°
h1	3
h2	t/4, ≦10
R	2
r	t≦9 … 4
	t＞9 … 6