



Single Crystal Diamond Dies

typical die geometries for various draw materials:

wire material	diameter d [mm]	reduction angle 2α	bearing (%d)
copper	0.035 - 0.45	18° - 20°	30 - 40
copper tinned	0.1 - 0.45	16° - 18°	30
aluminium	0.1 - 0.45	20° - 22°	30
stainless steel	0.1 - 0.5	12° - 14°	30
stainless steel - tubes	0.1 - 2	16° - 18°	30 - 50
molybdenum	0.1 - 0.45	12° - 14°	40 - 60
tungsten	0.1 - 0.45	12° - 14°	40 - 60
low-carbon steel	not recommended	not recommended	not recommended

standard tolerance:

d [mm]	tolerance in minus [μm]
up to 0.05	0.5
0.05 - 0.1	0.8
0.1 - 0.2	1
0.2 - 0.4	2
0.4 - 0.6	3
0.6 - 1.0	4
> 1.0	5
ovality 50% of tolerance	

crystal orientation - always $\langle 111 \rangle$	dies d < 0.1 mm	dies d > 0.1 mm
<p><u>advantages:</u></p> <ul style="list-style-type: none"> - longest life time - best surface quality - best roundness - best heat distortion - regular wear 		