



Synthetic single crystal diamond dies

Wire drawing dies



www.estevesgroup.com



Highlights

- Ideal for fine and super fine wires
- Low surface friction
- Smooth wire surface
- Ultra-high accuracy dies available
- From .00039-.0713" [0.010 to 1.81 mm]

High performance synthetic single crystal diamond dies allow wire manufacturers to meet wire surface quality and dimension standards.

Wire drawing dies are commonly used to reduce the diameter of various ferrous and non-ferrous rods and wires. Applications include high, medium and low voltage cables, automotive, medical wire, superconducting, and bonding wire.

Esteves Group synthetic single crystal diamond drawing dies (SSCD dies) give the wire manufacturer the ability to produce the smallest sizes of wires with uniform wire roundness and high surface quality while meeting or exceeding the required wire diameter tolerances.

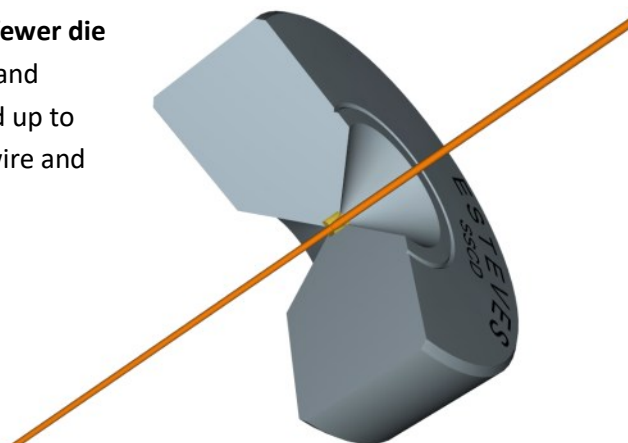
SSCD dies enable long drawing die life with long lasting dimensional tolerances, even for high demanding applications. Esteves Group SSCD drawing dies are manufactured with a mirror polish and a smooth wire entry to ensure optimal die life and string-up.

Esteves Group offers a complete line of SSCD drawing dies for small to ultra fine wire.

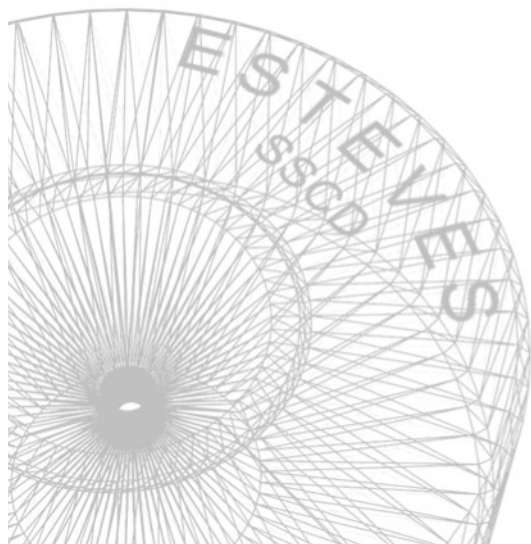
We Specialize in...

- Wire Drawing Dies
- Bunching, Stranding & Compacting Dies
- Split Dies
- Tubing Dies
- Shaped Dies
- Extrusion Tooling
- Die Reconditioning Tools
- Engineering Services
- Customer Support

Higher **throughput**, fewer **die changes**, less **scrap**, and **higher quality** all add up to more profit for the wire and cable manufacturer.



SSCD - New Technology





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Blank Type ¹	Esteves Group 111-oriented SSCD wire drawing dies							
size	S5	S6	S7	S8	S9	S10	S11	S12
<i>Standard die hole diameter (inch)</i>								
new die size range	.0000	.0016	.0020	.0028	.0040	.0079	.0119	.0158
	-	-	-	-	-	-	-	-
	.0016	.0020	.0028	.0039	.0079	.0118	.0157	.0197
max. recut (soft wire) ²	.0160	.0190	.0225	.0255	.0285	.0320	.0350	.0380
max. recut (hard wire) ²	.0140	.0170	.0195	.0225	.0255	.0280	.0310	.0335
<i>Standard die hole diameter (mm)</i>								
new die size range	0.000	0.051	0.071	0.101	0.201	0.301	0.401	0.501
	-	-	-	-	-	-	-	-
	0.050	0.070	0.100	0.200	0.300	0.400	0.500	0.600
max. recut (soft wire) ²	0.40	0.50	0.55	0.65	0.75	0.80	0.90	0.95
max. recut (hard wire) ²	0.35	0.45	0.50	0.55	0.65	0.70	0.80	0.85
Standard casing dimensions ³								
diameter x height [inch]	Made to order							
diameter x height [mm]	28 x 8							

Blank Type ¹	Esteves Group 111-oriented SSCD wire drawing dies							
size	S13	S14	S15	S16	S17	S18	S19	S20
<i>Standard die hole diameter (inch)</i>								
new die size range	.0197	.0237	.0276	.0315	.0355	.0394	.0433	.0473
	-	-	-	-	-	-	-	-
	.0236	.0276	.0315	.0354	.0394	.0433	.0472	.0512
max. recut (soft wire) ²	.0415	.0445	.0455	.0485	.0515	.0545	.0575	.0605
max. recut (hard wire) ²	.0365	.0395	.0420	.0450	.0480	.0505	.0535	.0565
<i>Standard die hole diameter (mm)</i>								
new die size range	0.601	0.701	0.801	0.901	1.001	1.101	1.201	1.301
	-	-	-	-	-	-	-	-
	0.700	0.800	0.900	1.000	1.100	1.200	1.300	1.400
max. recut (soft wire) ²	1.05	1.15	1.15	1.25	1.30	1.40	1.45	1.55
max. recut (hard wire) ²	0.95	1.00	1.05	1.15	1.20	1.30	1.35	1.45
Standard casing dimensions ³								
diameter x height [inch]	Made to order							
diameter x height [mm]	28 x 8	28 x 10						

¹ HPHT (High Pressure High Temperature) Synthetic single crystal diamond

² Maximum recut sizes are approximate and can differ depending upon the drawing application

Maximum recommended diameters are calculated with the following geometries:

- soft wire: elongation 26.1%, reduction angle: 18°, bearing length=35%

- hard wire: elongation 15%, reduction angle: 12°, bearing length=35%

³ Other casing dimensions are available on request



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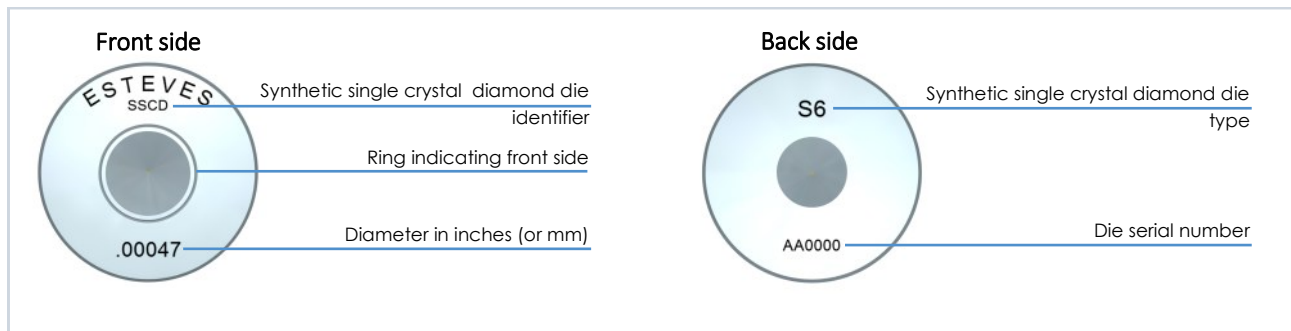
Key Features

- 111-oriented diamonds
- Predictable wear shape
- Predictable maximum recut size
- High-temperature resistant
- Ultra-high accuracy dies available

Benefits

- Ideal for fine and super fine wires
- Low surface friction
- Smooth wire surface

STANDARD PRODUCT CODING



Please contact Esteves Group for any special engraving requirements.

SSCD Wire Drawing Die Standard Tolerances

	Imperial tolerances [inch]			Metric tolerances [mm]		
	Diameter	Tolerance	Max. ovality	Diameter	Tolerance	Max. ovality
	.00027 - .00560	± .00002	.00002	0.007 - 0.141	± 0.00051	0.00051
	.00561 - .00891	± .00003	.00003	0.142 - 0.226	± 0.00076	0.00076
	.00892 - .01263	± .00004	.00004	0.227 - 0.320	± 0.00102	0.00102
	.01264 - .02009	± .00005	.00005	0.321 - 0.510	± 0.00127	0.00127
	.02010 - .02845	± .00006	.00006	0.511 - 0.722	± 0.00152	0.00152
	.02846 - .04029	± .00007	.00007	0.723 - 1.023	± 0.00178	0.00178
	.04030 - .05706	± .00008	.00008	1.024 - 1.449	± 0.00203	0.00203
	.05707 - .08079	± .00009	.00009	1.450 - 2.051	± 0.00229	0.00229
	.08080 - .08400	± .00010	.00010	2.052 - 2.150	± 0.00254	0.00254

Tighter tolerances are available when required

More drawing die types, cabling tooling, and extrusion tools are available.
Please contact **Esteves Group** for a quotation for your wire and cable tooling.

Drawing, and cabling tooling below:
TC dies, PCD dies, ND dies, bunching and stranding dies,
split dies, extrusion tools





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