

## Powder Choice Table for EFD Needles

Dispensing													
Application		Dispensing Needle						Powder Size					
Pitch				Internal Diameter						Diameter Range			
Inches	Microns	Gauge	Color	Inches	Microns	# Small Spheres	# Large Spheres	Type	Mesh	Inches	Microns		
		14	olive	0.060	1520	33.8	20.3	2	-200/+325	0.0018	0.0030	45	75
		15	amber	0.053	1350	30.0	18.0	2	-200/+325	0.0018	0.0030	45	75
		16	grey	0.047	1190	26.4	15.9	2	-200/+325	0.0018	0.0030	45	75
		18	green	0.033	840	18.7	11.2	2	-200/+325	0.0018	0.0030	45	75
0.050	1270	20	pink	0.023	580	23.2	12.9	3	-325/+500	0.0010	0.0018	25	45
		21	purple	0.020	510	20.4	11.3	3	-325/+500	0.0010	0.0018	25	45
		22	blue	0.016	410	16.4	9.1	3	-325/+500	0.0010	0.0018	25	45
0.025	635	23	orange	0.013	330	13.2	7.3	3	-325/+500	0.0010	0.0018	25	45
0.020	508	25	red	0.010	250	10.0	6.6	*	-400/+500	0.0010	0.0015	25	38
0.016	406.4	25	red	0.010	250	12.5	6.6	4	-400/+635	0.0008	0.0015	20	38
0.016	406.4	27	clear	0.008	200	10.0	8.0	5	-500/+635	0.0008	0.0010	20	25
0.012	304.8	30	lavender	0.006	150	?	7.5	6	-635	finer	0.0008	finer	20

\* Not defined

- **Application Pitch** is the recommended pitch for the corresponding needle gauge. It is based on the need for the internal diameter of the needle to be less than the width of the pad. Note that the pad width could be adjusted.
- **Gauge** is an arbitrary number given to standard diameter needles.
- **Internal Diameter** gives the diameter of the inside of the needle. The above table gives the diameter in terms of inches, microns, and number of spheres.
- **Outside Diameter** is not given here and has no impact on powder choice.
- **Powder Type** is defined by IPC standards. Some confusion exists over type 5 and type 6 powders.
- **Mesh** gives the number of divisions per inch. Example: a 200 mesh screen has 200 wires per inch. Each wire for a 200 mesh screen is 52 microns wide. Consequently, openings are 75 microns wide.
- One **Micron** is  $10^{-6}$  meters or  $3.937 \times 10^{-5}$  inches.

### STANDARD POWDER RECOMMENDATIONS

**Rule of Thumb: A minimum of seven powder spheres should span the diameter of the needle.**

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[www.indium.com](http://www.indium.com)

[askus@indium.com](mailto:askus@indium.com)

ASIA: Singapore, Cheongju: +65 6268 8678  
 CHINA: Suzhou, Shenzhen, Liuzhou: +86 (0)512 628 34900  
 EUROPE: Milton Keynes, Torino: +44 (0) 1908 580400  
 USA: Utica, Clinton, Chicago: +1 315 853 4900



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