



## Klassifikation der DLC-Schichten (Richtlinie VDI 2840)

Carbon films															
Designation	2 Amorphous carbon films (diamand-like-carbon films / DLC)								3 Crystalline carbon films						
	1 Plasma-polymer films								Diamond films				Graphite films		
Thin film / Thick film	Thin film	Thin film							Thin film			Thick film (free standing)		Thin film	
Doping, additional elements	hydrogen-free			hydrogenated					undoped		doped	undoped	doped	undoped	
			modified					modified							
Crystal size on the growth side	./.	(amorphous)							1 to 500 nm, nano-crystalline	0,5 to 10 µm, mikro-crystalline	0,1 to 5 µm	(5 µm to), 80 to 500 µm	80 to 500 µm		
	Predominating C-C-bond type	sp <sup>2</sup> or sp <sup>3</sup> , linear bond	sp <sup>2</sup>	sp <sup>3</sup>	sp <sup>2</sup>	sp <sup>2</sup> or sp <sup>3</sup>	sp <sup>3</sup>	sp <sup>2</sup>	sp <sup>2</sup>	sp <sup>3</sup>	sp <sup>3</sup>	sp <sup>3</sup>	sp <sup>3</sup>	sp <sup>3</sup>	sp <sup>2</sup>
Film No.	1	2.1	2.2	2.3	2.4	2.5	2.6	2.7	3.1	3.2	3.3	3.4	3.5	3.6	
Designation	Plasma-polymer film	Hydrogenfree amorphous carbon film	Tetra-hedral hydrogenfree amorphous carbon film	Metal-containing hydrogenfree amorphous carbon film	Hydrogenated amorphous carbon film	Tetra-hedral hydrogenated amorphous carbon film	Metal-containing hydrogenated amorphous carbon film	Modified hydrogenated amorphous carbon film	nanocrystalline CVD diamond film	micro-crystalline CVD diamond film	doped CVD diamond film	CVD diamond	doped CVD diamond	graphite film	
Recommended abbreviation	./.	a-C	ta-C	a-C:Me	a-C:H	ta-C:H	a-C:H:Me (Me = W, Ti, ...)	a-C:H:X (X = Si, O, N, F, B, ...)	./.	./.	./.	./.	./.	./.	