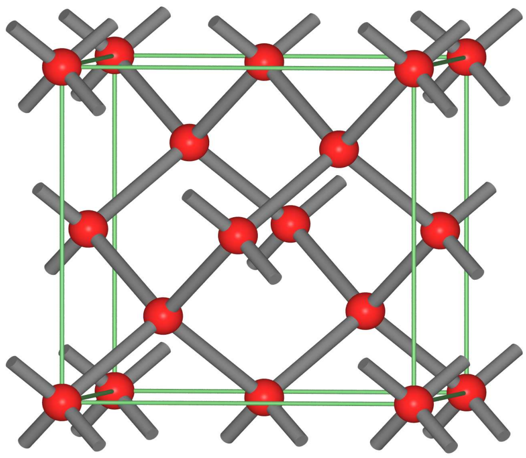
Künstliche Edelsteine

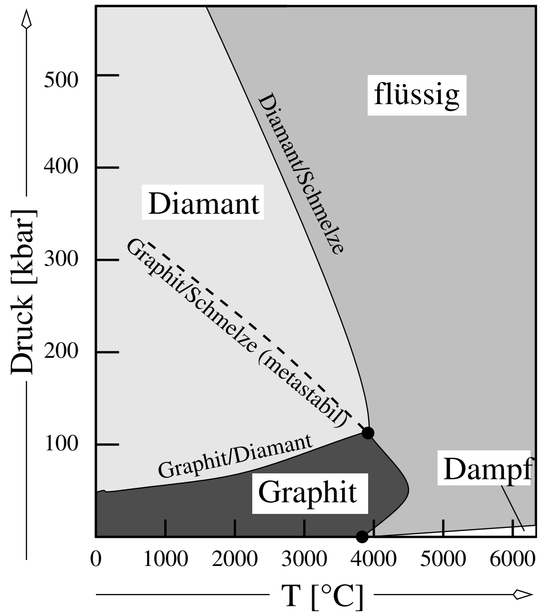
1. Übersicht

Edelstein	chem. Formel	Härte (Mohs)	n_D	ρ [g/cm^3]
Diamant	C	10	2.42	3.52
Korund (Saphir, Rubin)	Al_2O_3	9	1.77	4.00
Spinell	$MgAl_2O_4$	8	1.73	
Beryll (Smaragd, Aquamarin)	$Be_3Al_2Si_6O_{16}$	7.5	1.58	2.69
Chrysoberyll (Alexandrit)	$BeAl_2O_4$	8.5	1.75	3.72
Quarz (Amethyst, Citrin)	SiO_2	7	1.55	2.66
Rutil	TiO_2	6	2.75	4.26
Zirkonoxid	ZrO_2	8	2.16	6.00
Gd-Ga-Granat (GGG)	$Gd_3Ga_5O_{12}$	7.5	2.02	7.02
Y-Al-Granat (YAG)	$Y_3Al_5O_{12}$	8	1.83	4.55

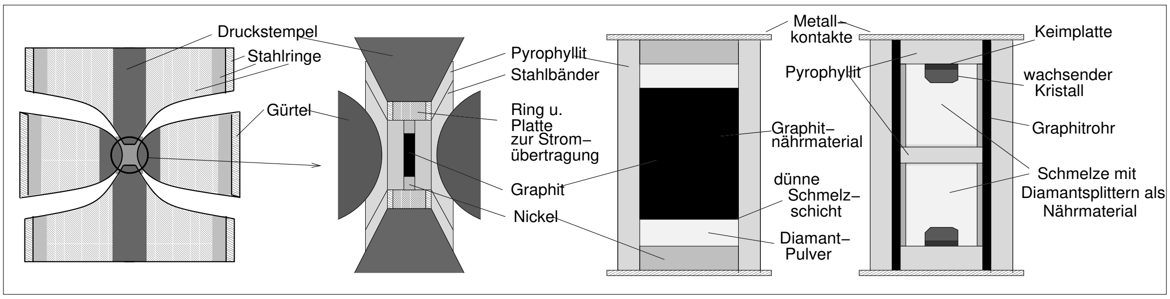
2. Hochdruck-Synthese $\mapsto$ Diamant



Struktur von Diamant



p-T-Diagramm



Belt-Apparatur zur Diamantsynthese