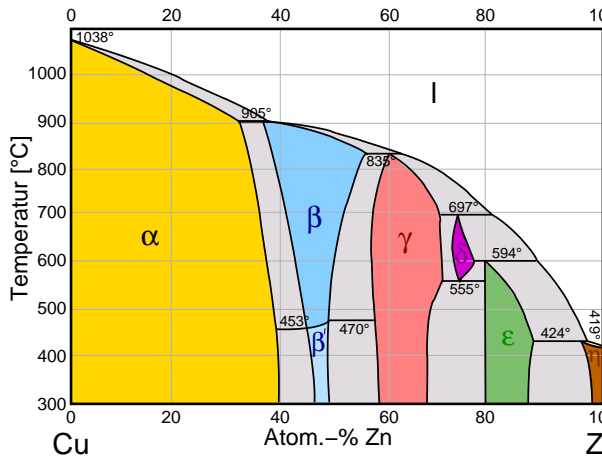


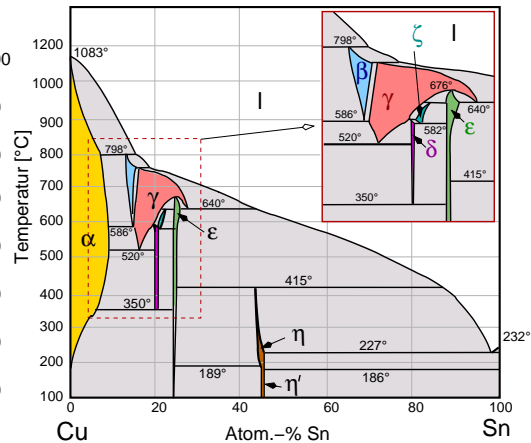
3.3.3. Hume-Rothery-Phasen (A2-B1)

	α -Phase	β -Phase	γ -Phase	ϵ -Phase
Struktur	f.c.c.	b.c.c.	kompl. kubisch (s.u.)	h.c.p.
VEC (n. HUME-ROTHERY)	-	$\frac{3}{2} = \frac{21}{14} = 1.5$	$\frac{21}{13} = 1.615$	$\frac{7}{4} = \frac{21}{12} = 1.75$
Experimentelle Werte				
Cu-Zn	1.284	CuZn (1.48)	Cu ₅ Zn ₈ (1.58-1.66)	CuZn ₃
Cu-Sn	1.270	Cu ₅ Sn (1.49)	Cu ₃₁ Sn ₈ (1.67)	Cu ₃ Sn
Cu-Al	1.408	Cu ₃ Al (1.48)	Cu ₉ Al ₄ (1.62-1.77)	-
Co-Zn	-	CoZn ₃	Co ₅ Zn ₂₁	-
Cu-In	-	Cu ₃ In	Cu ₉ In ₄	-
Rh-Zn	-	-	Rh ₅ Zn ₂₁	-

Übersicht HUME-ROTHERY-Phasen

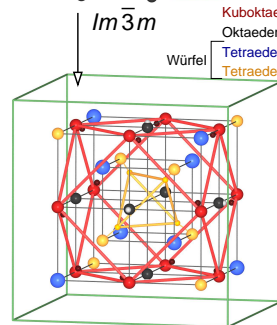
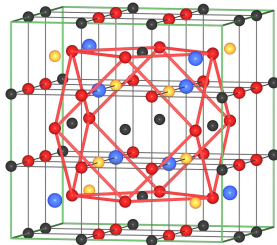


Phasendiagramm Cu-Zn (Messing)



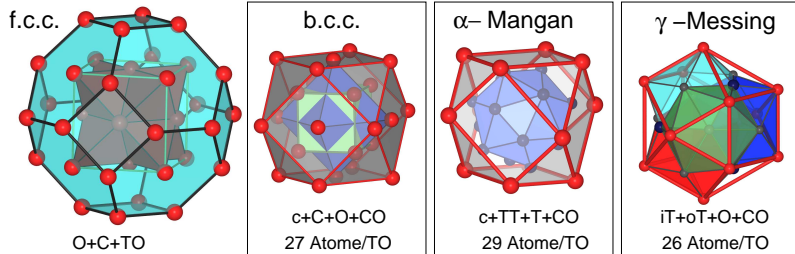
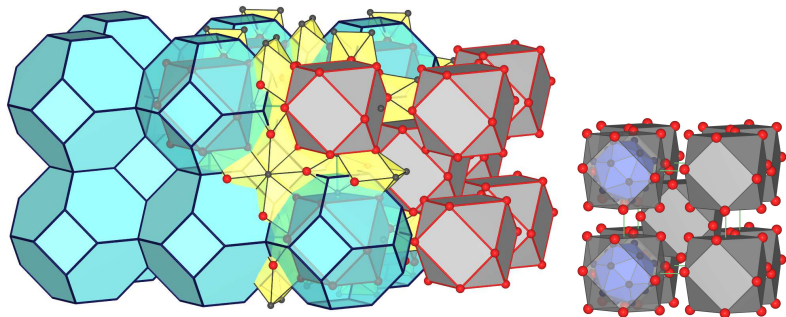
Phasendiagramm Cu-Sn (Bronze)

3x3x3 b.c.c. - (0,0,0) - (1/2, 1/2, 1/2)



Kuboktaeder: Zn 24(g)
 Oktaeder: Cu 12(e)
 Tetraeder: Zn 8(c)
 Tetraeder: Cu 8(c)

Umgebung eines Lochs



[c: center; O: octahedron; C: cube; CO: cuboctahedron; T: tetrahedron; TT: truncated tetrahedron; TO: truncated octahedron (β -Käfig)]

Struktur von γ -Messing (l: Ableitung von b.c.c.; r: Erklärung mittels β -Käfigen)