

$\text{Re}_{1.16}\text{O}_3$ $hP10$ (182) $P6_322$ – gcb **$\text{Re}_{1.16}\text{O}_3$ hp [1]**

Structural features: Close-packed O layers in h stacking; Re in octahedral voids (partial disorder).

Jeitschko W., Sleight A.W. (1972) [1]

 $\text{O}_3\text{Re}_{1.13}$ $a = 0.48350$, $c = 0.45350$ nm, $c/a = 0.938$, $V = 0.0918$ nm³, $Z = 2$

site	Wyck.	sym.	x	y	z	occ.	atomic environment
O1	6g	.2.	0.359	0	0		tetrahedron Re_4
Re2	2c	3.2	$\frac{1}{3}$	$\frac{2}{3}$	$\frac{1}{4}$		octahedron O_6
Re3	2b	3.2	0	0	$\frac{1}{4}$	0.13	8-vertex polyhedron O_6Re_2

Transformation from published data: $-x, -y, -z$; origin shift 0 0 $\frac{1}{2}$ Experimental: single crystal, diffractometer, X-rays, $R = 0.024$ Remarks: Phase prepared at 6.5 GPa, homogeneity range $\text{Re}_{1+x}\text{O}_3$, $0.14 < x < 0.21$.

References: [1] Jeitschko W., Sleight A.W. (1972), J. Solid State Chem. 4, 324-330.