

MATERIAL DATA SHEET



Cobalt-Chrome SP2 (REF: 9011-0018) is cobalt based metal-ceramic alloy intended for production of Porcelain-Fused to Metal (PFM) dental restorations (crowns, bridges, etc.). Cobalt-Chrome SP2 powder is class IIa medical device in accordance with annex IX rule 8 of the MDD 93/42/EEC. Composition corresponds to “type 4” CoCr dental material according to EN ISO 22674.

MATERIAL PROPERTIES AFTER STRESS RELIEVING^[1]

Material composition	Co: 63.8 wt-%	W: 5.4 wt-%	Mn: max. 0.10 wt-%
	Cr: 24.7 wt-%	Si: 1.0 wt-%	Free of Ni, Be, and Cd according to EN ISO 22674
	Mo: 5.1 wt-%	Fe: max. 0.50 wt-%	
Relative density	approx. 100 %		
Density	8.5 g/cm ³		
Proof strength (Rp 0.2 %)	850 MPa		
Ultimate tensile strength	1350 MPa		
Percent elongation	3%		
Young's Modulus	approx. 200 GPa		
Vickers hardness HV10	420 HV		
Coefficient of thermal expansion [25 - 500 °C]	14.3 x 10E-6 m/m°C		
Coefficient of thermal expansion [20 - 600 °C]	14.5 x 10E-6 m/m°C		
Melting interval	1410 - 1450 °C		

[1] Stress relieving: (1 hour at 750 °C), oxide fire simulation (5 min at 950 °C) and ceramic fire simulation (4 x 2 min at 930 °C) procedures according to EN ISO 22674

