

Title (en)  
Process for preparing a starting powder material for fine grained hard metal

Title (de)  
Verfahren zur Herstellung von Pulvervormaterial für feinkörniges Hartmetall

Title (fr)  
Procédé de préparation de poudre de départ pour matériau dur à grain fin

Publication  
**EP 0839920 B1 20021218 (DE)**

Application  
**EP 97203354 A 19971029**

Priority  
AT 191296 A 19961104

Abstract (en)  
[origin: EP0839920A2] In the production of a starting powder for fine grained cemented carbide manufacture from a metal oxide or reducible metal compound powder by reducing to metal, carburizing and subjecting to a mechanical-chemical powder treatment and/or mixing operation, the reduction and/or carburization step employs a cyclone unit which is a heated rotationally symmetrical reaction chamber having inlet and outlet openings for the powder, reagent and carrier gas. The continuously supplied powder retains its solid state during high velocity passage through the reaction chamber along predetermined flight paths which are tangential to the chamber wall and which are controlled by means of the powder flight direction and velocity at the inlet and by means of the flow parameters of the carrier and/or reaction gas. The unit produces  $\geq 90$  vol.% chemical reaction of the powder in a dwell time of 0.1-60 (preferably 0.2-10) s.

IPC 1-7  
**C22C 1/05**

IPC 8 full level  
**B22F 9/22** (2006.01); **B22F 1/00** (2006.01); **C22C 1/05** (2006.01)

CPC (source: EP US)  
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