HERIOT

HOT ISOSTATIC PRESSING (HIPed) OF THERMAL SPRAY COATINGS IN TRIBOLOGICAL APPLICATIONS

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WC-12Co coating	s, phase transformations
Summary of phase transformations	HIPed coating
 recrystallisation of amorphous phases at HIPing temperature 	
• elimination of secondary phases W_2C	
orisappearance of brittle metallic tungsten formation of additional complex eta-phases Co ₃ W ₃ C and Co ₆ W ₆ C	As-sprayed coating
possible chemical reaction:	
W ₂ C+W+3Co = Co ₃ W ₃ C	Powder













	WC-12Co coatings, Mechanical proper
Summanı of	
neasureme	ntechanical properties
 increase of n microstructura hardening of b 	nicrohardness across and along the coating due to I changes e.g. angular-in-shape grains, WC grains agglomerates binder through formation of complex eta phases
 increase of find disappearance 	acture toughness due to phase transformation e.g. e of brittle secondary phases and metallic tungsten
	he electicity of the coating due to the improvement in the

















