

# 上海康复达机械制造有限公司 Shanghai Alpha Machinery Co., Ltd

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## Information of $\alpha$ 301A Co-based

### Wear-resistant & Corrode-resistant PM-HIP Ovalliner

Since Elwood Haynes from America designed Co-based + Carbide Alloy in the beginning of last century, the stand fire, corrosive resistant and cavitation resistant features of Co-Cr-W-C alloy has become very famous all over the world. On a basis of Co-Cr-W-C alloy, our company designed  $\alpha$ 301A alloy, its base material is the solid solution of Co & Cr alloy, so it performs superior mechanical strength and better oxidation resistant, corrosive resistant features.

Our company adopts PM-HIP technology way, after many tries and broke through a lot of difficulties in technology, we successfully designed and made some PM-HIP ovalliners with  $\alpha$ 301A alloy. One of our oversea clients used these ovalliners since February, 2008, and under the extreme working conditions of enhanced and CPVC corrosion ambience, compared with our common  $\alpha$ 301 alloy sleeve that we supplied them for antithesis, the wear resistant and corrosive resistant feature of  $\alpha$ 301A alloy HIP overliners is much more better! The client is very satisfied and expressed intention to get more batch from us.

The primary structure of  $\alpha$ 301A alloy is solid solution of Co-based with face-centered cubic, it can keep superior mechanical strength and hardness even up and over 800°C working condition. Duo to there is a big quantity of  $M_7C_3$  carbide which disperses on the basal body of  $\alpha$ 301A alloy, that makes this alloy performs superior wear resistant feature, even inside a high temperature condition! Besides, it also retains superior self-joggle, bond wear and solid powder abrasion resistant features.

Compared with  $\alpha$ 201A alloy,  $\alpha$ 301A alloy contains big proportion of WC, that's the reason of its higher hardness and better wear resistant feature. The chemical composition and hardness as below:

C	Cr	W	Co	Fe	Si	Ni	HRC
2.5~3.0	30~35	15~20	Balance	≤1.0	≤1.0	≤1.0	59

We make up our mind to put this newly-designed Co-based  $\alpha$ 301A alloy PM-HIP ovalliner into mass produce In October 2008 after, welcome customers all over the world make enquiry to us!

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