



COBALT-CHROMIUM CARBIDE CODE 4025

SIFCO ASC is continuously developing and refining new deposits and coatings, providing the highest quality surface enhancement materials that meet industry's ever changing requirements.

SIFCO ASC has developed a process to selectively brush plate a cobalt metal matrix composite in which chromium carbide particles are incorporated. SIFCO ASC's $\text{Co-Cr}_3\text{C}_2$ is an adherent, ductile, dense, non-porous deposit that provides high temperature oxidation protection with superior wear resistance that can be improved by heat treating.

Applications

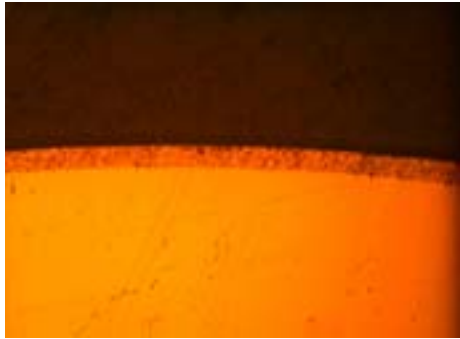
- For OEM or dimensional repair applications that require the enhancement of localized areas to improve surface properties including hardness, and wear resistance in high temperature applications.

Why use Cobalt-Chromium Carbide?

- **Superior Wear Resistance**
- **Machinable**
- **High Temperature Oxidation Protection**



COBALT CHROMIUM CARBIDE



0.003" thick of Co-Cr₃C₂ deposit plated onto the OD of a steel cylinder



Microstructure

PROPERTY	UNIT	BRUSH PLATED Co-Cr ₃ C ₂	ELECTRO-DEPOSITED CHROMIUM
Cr ₃ C ₂	Wt. %	10 - 50	-
UNIFORMITY	Wt. %	±3	-
PARTICLE SIZE	µm	1 - 5	-
MICROHARDNESS	VHN	360 - 500	800 - 1200
HARDNESS CHANGE AFTER 400 °C EXPO SURE	%	> + 10%	790
TABER WEAR INDEX	µg/CYCLE	8	3 - 6
TABER WEAR AFTER 400 °C EXPOSURE	µg/CYCLE	4	-
SURFACE FINISH AS DEPOSITED, R _a	µm	0.5 - 1.5	-