



Protection of Non-Lube Compressor Cylinders and Distance Pieces with VCI Powder for Shipment

This procedure covers corrosion protection of non-lube compressor cylinders and distance piece cavities with Vapor Corrosion Inhibitor (VCI) powder for shipment. Vapor corrosion inhibitors are chemical compounds which react with oxygen to produce a vapor with anti-corrosion properties. The vapor saturates an air space with negatively charged molecules which migrate to positively charged surfaces to form a protective mono-molecular film. This film creates a barrier to prevent oxygen and moisture from contacting metal surfaces. Parts removed from the vapors have no corrosion protection.

Cylinders and distance piece cavities are treated at the factory for 6 months protection. Equipment not commissioned in service within 6 months requires inspection and re-application of VCI. It is not necessary to remove VCI powder before commissioning equipment.


Application

1. Verify all interior cylinder surfaces are clean, oil free, and dry.
2. Apply 7 grams (1/4 ounce) of VCI powder per cubic foot of cavity volume (245g/m³) for 6 months protection. Table 1 lists quantities of VCI powder for Ariel cylinders and distance pieces. These quantities ensure adequate protection, regardless of cylinder or crosshead guide size.

TABLE 1 Practical Quantities of VCI Powder

Cylinders by Frame Class	Ounces	Tablespoons (Tbsp)	Grams			
JG, JGA, M, P, J, W, SG	1/4	1	7			
R, H, E, K, T, C, D, Z, U	1/2	2	15			
B, V	1	4	30			
Distance Piece Cavities (Long Two-Compartment)	Inner Cavity (Adjacent to Crosshead)			Outer Cavity (Adjacent to Cylinder)		
	Ounces	Tbsp	Grams	Ounces	Tbsp	Grams
JG, JGA, JGW, JGR, JGJ	1/8	1/2	4	1/4	1	7
JGH, JGE, JGK, JGT	1/4	1	7	1/2	2	15
JGC, JGD	1/2	2	15	1	4	30
JGZ, JGU, KBZ, KBU	1	4	30	1	4	30
JGB, JGV, KBB, KBV	1-1/2	6	45	1-1/2	6	45

3. Place VCI powder in an entrance (such as valve pockets and/or head end) and blow it into the cavity with filtered, moisture-free, compressed air until all powder is finely and thoroughly dispersed or use a powder bellows. Treat distance piece cavities, both ends of cylinder, gas passages, valve areas, and unloaders.
4. After VCI application, immediately seal all openings to prevent any air exchange into the cylinder or distance piece. Use Ariel supplied shipping covers, gaskets, and bolts to close openings. When a compressor cylinder ships separately, seal compressor rod/packing case area with waterproof cloth tape.

REV	DESCRIPTION	REV	EC	DATE	REV	EC	DATE
	Edited for format, style, and clarity. See EC documentation for details	4	011418	1-22-04	9	015759	8-16-11
		3	ECN7927	---	8	016770	6-9-10
		2	ECN6451	---	7	015462	9-24-08
		1	ECN5908	---	6	013545	9-21-06
		0	ECN5620	4-6-95	5	012410	12-24-04



5. For each compressor cylinder treated with VCI, mark quantity of VCI used and date applied in permanent black ink on a temporary tag (Ariel part number A-5831). Attach tag to the cylinder.

Material and Source

VCI - Cortec Corrosion Inhibitor Powder VmCI™-307 (or equivalent)

Cortec Corporation
St. Paul Minnesota
800-426-7832

Ariel recommends 5-pound (2.3 kg) containers due to shelf life.

Safety Precautions

Wear breathing apparatus conforming to international standards when applying VCI powder. Wear appropriate protective clothing and eye protection. Barrier creams may assist in protecting exposed skin. Store powder in a sealed container in a dry place with temperature not exceeding 150°F (65°C). Avoid direct exposure to sunlight. Shelf life is up to 24 months. See manufacturer Health and Safety Data Sheet for VmCI™-307 for complete information.