

# Potential Airlock Coatings

MAC offers many coatings on our products. Below are some commonly used coatings, please call for more information.

**Nedox** can be applied to the entire airlock or to the housing, rotor or endplates as needed.

## Features:

- Increased hardness over base metals
- Excellent surface release characteristics
- Excellent corrosion resistance
- Very good abrasion resistance
- Very good chemical resistance
- Excellent moisture resistance
- Permanent lubricity to surface
- Becomes an integral part of base metals
- Electroless nickel meeting MIL-C-26074, Class 1 or 2
- USDA/FDA approved surface

## Benefits:

- Nedox is harder than chrome (750 Vickers scale, Equivalent is RC-65) and adheres to base metals better than chrome and provides a very low friction surface
- Nedox can be utilized when a reasonable amount of abrasion exists from handling selected materials that would otherwise cause excessive wear to cast iron, carbon steel or stainless steel
- Nedox provides a “non-stick” surface to those materials that would otherwise have a tendency to adhere to standard base metals or chrome plated surfaces
- Nedox, when applied to carbon steel/cast iron component surfaces, can be used to replace stainless steel component requirements in the food, milling, chemical and similar industries. All of this at a cost that is usually lower than rotary airlocks and diverters with aluminum and stainless steel assemblies or all stainless steel assemblies
- Nedox can be utilized in applications where temperatures reach up to 450° F

**Ceramic** is applied to the housing bore and, in many instances, may be applied to the face of the endplates.

## Features:

- Increased hardness over base metals
- Coating applied is approximately 0.040" thick, it does not become an integral part of the base metal
- Can be used in applications up to 450°F
- Does not meet USDA/FDA approval

## Benefits:

- Excellent surface release characteristics
- Surface hardness is approximately equivalent to Rockwell C scale 65 to 68. The actual particle hardness of the ceramic is extremely high but cannot be tested to relate it to a Rockwell scale because it cannot tolerate impact
- Excellent abrasion resistance - limited by low tolerance for impact (tendency to chip away from base metal when impact is involved)
- Better surface release than base metal

## Cautions:

- May not withstand temperatures to 450° F if moisture is present and therefore, possibly, hot acid that could attack the coating if the extreme temperature changes are rapid. The bond may not hold due to difference in thermal expansion of the materials.



**Tungsten Carbide** Is applied to the rotor tips for "Wear Resistant" Airlocks.

**Features:**

- This is applied with flame spray process
- Coating thickness is 0.003"
- Can be used in applications up to 450° F
- Does not meet USDA/FDA approval

**Benefits:**

- Has a hardness equivalent to Rockwell C scale 65 to 69

**Hard Chrome** Is applied to the housing bore and may be applied to the face of the endplates.

**Features:**

- 0.001 to 0.002" thick
- Better surface release than base metal
- Limited chemical resistance
- Coating applied using an electrolytic process, it does not become an integral part of the base metal
- Can be used in applications up to 450° F

**Benefits:**

- Better hardness than base metals, surface hardness equivalent to Rockwell C scale 56 to 65, limited by low tolerance for impact (tendency to chip away from base metal when impact is involved)
- Usually less expensive than Nedox or Ceramic

**Teflon (Industrial)** Is applied to the rotor only.

**Features:**

- 2 step application process
- 0.0015" thick
- Can be used in applications up to 450° F

**Benefits:**

- Excellent surface release.

**Cautions:**

- Very sensitive to abrasion. For this reason is not acceptable for coating bore or endplates.

**Teflon (Food Grade) - "Silverstone"** Is applied to the rotor only.

**Features:**

- 3 step application process
- 0.002" thick
- Can be used in applications up to 450° F
- USDA/FDA approved surface

**Benefits:**

- Excellent surface release

**Cautions:**

- Very sensitive to abrasion. For this reason is not acceptable for coating bore or endplates.