

URC[®] 12x30

Impregnated Granular Activated Carbon



DESCRIPTION

URC 12x30 (Universal Respirator Carbon) is an impregnated granular activated carbon for multi-purpose use in respirators. It is intended to be incorporated into suitably designed respirator canisters to provide multi-gas protection in accordance with NIOSH industrial gas/vapor test conditions and with European Standard EN 14387. In general terms, URC 12x30 provides protection against organic vapor (A type), specified inorganic gases (B type), acid gases (E type), and ammonia (K type).

The base carbon utilized in the production of URC 12x30 is made from select grades of bituminous reagglomerated coal. It is manufactured under stringent conditions by high temperature steam activation, before being impregnated with controlled compositions of chemical additives to provide protection against the above gases. No chromium is used in the formulation of URC 12x30.

URC 12x30 was created and patented in the late 1990's as the original chrome-free multi-gas protection carbon.

APPLICATIONS

Some of the applications for URC 12x30 in respiratory canisters and cartridges include:

- Organic vapors (CCl_4 , C_6H_{12})
- Hydrogen cyanide (HCN)
- Sulfur Dioxide (SO_2)
- Hydrogen Sulfide (H_2S)
- Hydrochloric Acid (HCl)
- Chlorine (Cl_2)
- Acid gas removal
- Ammonia (NH_3)
- Methylamine (CH_3NH_2)
- Formaldehyde (CH_2O)



Specifications

Moisture (As Packaged), wt%	6.5 - 8.5
Hardness Number	80 (min)
Density (Apparent, as packaged), g/cc	0.62 - 0.75
12 US Mesh [1.70 mm], wt%	2.0 (max)
16 US Mesh [1.18 mm], wt%	10 - 30
20 US Mesh [0.850 mm], wt%	40 - 65
30 US Mesh [0.600 mm], wt%	10 - 35
<30 US Mesh [0.600 mm] (Pan), wt%	2.5 (max)

FEATURES & BENEFITS

URC 12x30 has several properties which explain its superior performance for respirators and human protection:

- The base granular material is produced from a pulverized blend of coal in a process known as reagglomeration, resulting in a consistent, high quality product. The low ash and high density results in minimum volume high activity base carbon ideally suited to compact canister design.
- Disposal issues are minimized since no chromium is used in the formulation.
- Broad spectrum protection - Need for multiple carbons is minimized or eliminated.
- Dependable performance under low and high humidity conditions with acid gas protection including HCN - Single carbon for North American and European markets allowing reduced inventory costs.
- Innovative impregnation process giving a consistent quality
- Below detectable limits for the potential release of substances during normal use.
- Available in other sizes (fine mesh and large mesh) for other applications, if of interest
- Not an ITAR restricted product

SAFETY MESSAGE

Wet activated carbon can deplete oxygen from air in enclosed spaces. If use in an enclosed space is required, procedures for work in an oxygen deficient environment should be followed.

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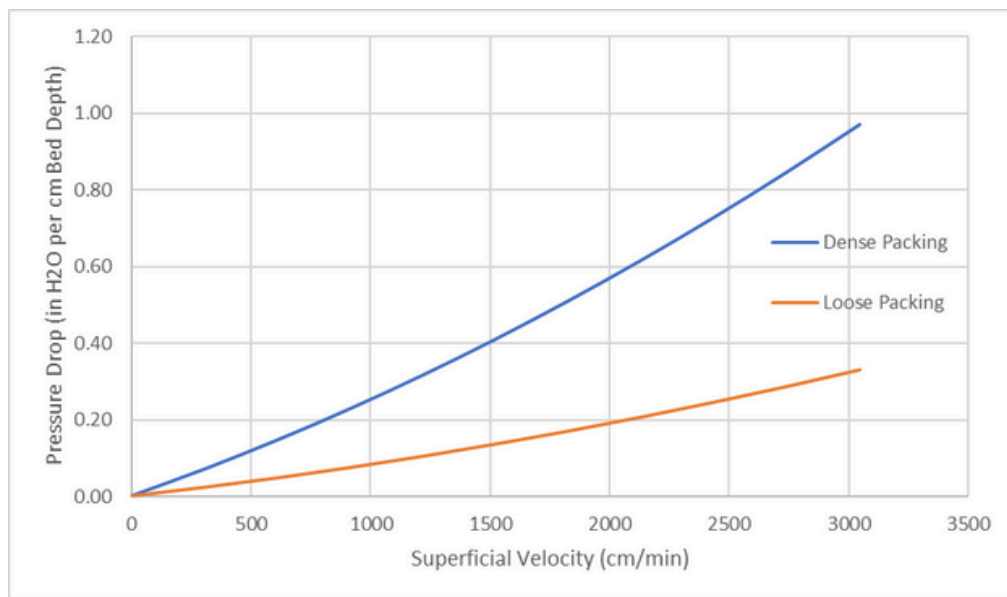
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TYPICAL VAPOR PHASE PRESSURE DROP

This chart is a tool for estimating pressure drop through carbon. The actual pressure drop will vary depending on the manufacturing process for your filter, but should typically fall between the two lines based on the packing density.



DESIGN CONSIDERATIONS

Depending on the application, URC 12x30 may provide the full range of protection needed or may be combined with other carbons. The best approach to ensuring robust protection in a filter design is to contact us and discuss your application. Calgon Carbon's technical experts are available to provide recommendations on carbon selection and utilization.



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