



TOOL BOX 011-POWDER

PPE: Safety shoes / Masks

This section is mostly information only. It is to ensure you understand the following statements I have heard from technicians over the years are pure rubbish.

- a. I can tell the grade of powder from the feel
- b. I can tell the MAP content from the smell
- c. I can tell the MAP / Grade from the colour
- d. I can tell the difference from the taste

There is two types of powder in use one being BC and the other ABC in various MAP contents which are 35-40 / 70 / 90%. BC powder is no longer used in SA as it would not meet the minimum ratings for an extinguisher and does not have an A grading. (this is not concerning specialised powders – such as D type extinguishers)

Both powders are therefore refined the same way and the granules are about the same size when made in the powder form. There for feeling the difference is not possible especially a technician who works with his hand daily. Physical use of your hand makes them less sensitive to feel. The bottom line is you cannot tell by feel.

Smell is slightly possible if you have a very good sense of smell you may pick up the Ammonia content. But is highly unlikely and of course you cannot be completely sure and would not like to bet on it.

Colour is purely a dye added to the powder to differentiate the grades, and decided by the manufacturer. It does not tell you the grade of the powder except for that manufacturer concerned.

Taste the powder and the most you are going to get is a taste of salt in the main. ABC is Monoammonium phosphate may not taste as good as BC powder. But they both have a salt taste, and BC is Bicarbonate of Soda is actually used mainly for cooking such as tarts and cakes. (Taste not wise / health hazard)

The only quick, cheap and simple way to tell the difference is via the heat method. This will not give you MAP content, and only whether ABC or BC.

- a. Take a small quantity on a tea spoon and heat over a heat source such as a candle until the powder becomes fluid in appearance.
- b. Smell it and if there is no smell it is BC. If you smell Ammonia then it is ABC, and the stronger the Ammonia smell the higher the MAP content.

What is does not give you is the Age, Manufacturer, and actual MAP content. To determine this information it would have to be sent to a laboratory, and of course that is not cost effective.

If you are interested in the powder you will get all the information from SANS1522:2004



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You are more interested in the rating of the extinguisher and not the powder in its bagged form. But powder is tested always in a 4.5Kg extinguisher, and the rating of the powder will be on the bags that it is delivered in. In the case of this rating on the bag you will find the rating from 1A – 5A and 1B – 5B printed on it. The higher the rating the higher the grade of powder.

The new minimum ratings on the extinguishers are what you require to know, and when it comes to recharging which powder to use from the manufacturer concerned. These ratings are.

<i>SANS 1910</i>	<i>SABS Min</i>
<i>1 kg DCP Extinguisher</i>	<i>5A 21B</i>
<i>1.5 kg DCP Extinguisher</i>	<i>5A 21B</i>
<i>2.5 kg DCP Extinguisher</i>	<i>8A 34B</i>
<i>4.5 kg DCP Extinguisher</i>	<i>13A 89B</i>
<i>9.0 kg DCP Extinguisher</i>	<i>27A 144B</i>

What you do need to know and understand about the powder is the following:

- a. **Mixing of powder is never to be done at all.** If powder is mixed there can be a chemical reaction which can cause a build up of pressure, and cause the cylinder to rupture, or the chemical reaction can cause the powder to solidify and go lumpy.
- b. **Powder will be kept in a sealed/ covered container to keep the dampness in the atmosphere out.** Powder attracts moisture which can be seen in the workshops especially during winter months, and because of our working environment there is always a certain amount of powder dust in the air.
- c. When working in the workshops depressurising where possible is always to be carried out in the powder room to keep contamination to the minimum.
- d. Scrap powder will be kept in a **clearly marked container**. (We reuse this powder for customer training to recycle the material to reduce hazardous waste and it not in the cylinders long enough to create a chemical reaction). If the powder is not use for other purposes it must be disposed of via a hazardous chemical disposal company. It is illegal to dispose of via a normal rubbish tip, as it breaks the environmental laws
- e. You will **always wear your powder mask**. The material is non toxic unless you work in that environment for long period of time, and you do work in that type of environment due to the nature of your job.

Life span of powder:

Under SABS / SANS rules the powder life span **is ten years**, and there for one of the pressure test cycles in theory will reuse the powder concerned. This re-useable powder will be sifted through a **2mm sieve**, and if there is any signs of caking or lumps the powder will be replaced. You will be interested to know that in the case of Ansul powder and the manufacturer's specifications' if you find a lump you drop it from 102mm, and if it does not completely break up you replace the powder.



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Presented By: Name: _____	Date _____	Signature _____
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