



TALK ON "ARGONITE, THE NATURAL ALTERNATIVE ON TO HALON"

Summary of talk presented by Mr. Tan Chin Heng from BMTT Corporation Sdn Bhd on 27 May 2004.

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Recently a local paper reported of an incident where a suspected leakage from CO₂ cylinder had caused the death of surveillance personnel of an engineering treatment plant. Ironically, CO₂ the same gas widely used as a fire protection agent, was also used to suffocate bird flu infected chickens during the regional epidemic recently. Perhaps one of the modern challenges in the fire protection industry would be the search for a truly safe "clean agent"

The IEM Mechanical Engineering Technical Division was honoured to have Mr. Tan Chin Heng, the director of BMTT Corporation Sdn Bhd to share with us his extensive knowledge of "Argonite", a fire extinguishing system employing clean agent technology. Argonite is a mixture of naturally occurring gases, i.e. argon and nitrogen, both of which are relatively inert gases. Argonite is used as a total flooding fire-extinguishing system. It is effective against fires in almost all combustible materials and flammable liquids and is particularly suited for use in areas where the use of water, foam or powder would be unacceptable. Argonite has been designed to provide the best fire extinguishing capabilities while maintaining the highest standards of safety towards people working in the enclosed environment. It does not result in damages to sensitive equipment and would therefore be an excellent choice for fire extinguishing needs in electrical and

computer rooms, data centres, IT rooms, operation theatres, substations and power plants. It is also widely used in the marine industry.

The selection of the right fire extinguishing agent is a collective effort involving all stakeholders, including the property or equipment owner and operator, the design engineer, contractors, suppliers and most importantly the lives of the protected space occupants. In addition, the environment must not be neglected. It is therefore important to know some of the "benchmarks" or "yardsticks" that would assist engineers to employ the correct engineering solution respective an application.

First on the checklist would be to consider the Ozone Depletion Potential (ODP), which was the Montreal protocol's effort to have the industry phase out Halon within a designated time frame. Next is the Global Warming Potential (GWP) where the message of global warming awareness was highlighted in the Kyoto Protocol, Hollywood movies such as "The Day After Tomorrow" and text books in our schools. Global warming is now an issue, which can no longer be ignored as it is a phenomenon resulting in adverse weather pattern changes and this affects us all on every level.

The hardware supplied for a fire extinguishing system such as cylinders, nozzles and valves shall be

of high quality, with stringent tolerance standards hence ensuring the performance, functionality and integrity of the whole fire extinguishing system, particularly during an actual fire incident. Owners or design engineers' should therefore seek proper certification and authentication from government authorities and independent test centres.

Due to the fact that Argonite consist of 100% "natural" atmospheric gases (actually a blend of argon and nitrogen in a 50:50 ratio), another significant characteristic of this inert gas fire protection technology is that the system will ensure 100% visibility without fogging, during operation, which is certainly an important performance indicator to ensure a safe and orderly evacuation of the protected space occupants. Besides, Mr. Tan also highlighted that another important property of a "clean agent" – its density is close to that of atmospheric air, thus facilitating the even distribution of such an agent in the protected space at different heights, instead of solely relying on the physical positioning of discharge nozzles. This also ensures that an optimum holding time is achieved in the protected area.

Besides the ease of installation, Argonite offers minimal maintenance effort and an indefinite life span. Support from the supplier, such as training and technical updates is also a point to consider with respect to long term maintenance. ■