



Data Sheet TCM-24

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TCM-24 Energy Saver Used in Building Windows

1. Introduction to TCM-24:

TCM stands for Temperature Control Materials, an R&D finding of Tri-Y Enterprises Ltd., used to control temperature in buildings or environment. TCM can release or absorb thermal energy when temperature changes from control point. The temperature control point of TCM-24 is set to be about 24⁰C.

2. Property:

Appearance: white crystals at 20⁰C. Density: 800kg/m³. Boiling point: 258⁰C. Flash point: 127⁰C (Closed Cup). Water solubility: negligible. Non-toxic, environmentally friendly.

3. Function:

Thermal energy storage capacity of TCM-24 is 60 wh/kg (216 kJ/kg). When temperature in environment is higher than the control point 24⁰C, TCM-24 will absorb thermal energy; when temperature is lower than the control point, TCM-24 will release thermal energy. TCM-24 is specially designed to control temperature around 24⁰C used in window systems to automatically control temperature in buildings to save heating or cooling energy.

4. Applications:

(1) Used in window frames:



Fig. 1 Properly packed TCM-24 installed in hollow sections of window frames



This application should be done before the installation of the window frames. The packed TCM with plastic bags is inserted into the hollow sections of the frames.

(2) Used on window glass:



Fig. 2 Plastic strip packed TCM installed on glass at the inside edges of window frames.

This application can be conducted on existing windows or new windows. The fabricated strip with TCM in envelopes can be stuck on the edges between glass and window frames.

5. Benefits:

- (1) Used on window glass, save energy 10-15%.
- (2) Used in whole window frames, save energy 15-30%.
- (3) Used both on window glass and in window frames, save energy 20-40%.

6. Handling:

The materials of handling should be plastic, glass, stainless steel, fibreglass, etc.

7. Storage:

Store in a cool, dry area. Keep container closed when not in use. Store temperature and humidity are: 0~40⁰C, RH<75%.

8. Safety:

Do not take internally. Do not get in eyes, on skin, or on clothing. Wear chemically resistant gloves. Consult medical doctor if swallowed. Please refer to MSDS before use.

9. Validity:

15 years if in closed containers and not contaminated.



TCM-24 技术资料
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控温材料 TCM-24 用于楼房窗户节能

1、TCM-24 简介：

TCM是温度控制材料的简称，是加拿大查韦高科有限公司的科研成果。TCM用于控制室内和环境的温度。当环境温度变化偏离TCM的“温度控制点”时，TCM放出热量或吸收热量以调节温度。TCM-24的“温度控制点”设定为24⁰C左右。

2、性质：

外观：20⁰C时为白色晶体。密度：800公斤/米³。沸点：258⁰C。闪燃点：127⁰C(闭杯测量方法)。水溶性：可忽略。TCM-24 无毒，对环境无害。

3、功能：

TCM-24储热容量为60瓦时/公斤(216千焦耳/公斤)。当环境温度高于TCM-24的“温度控制点”24⁰C时，TCM-24吸收环境热量使环境温度降低；当环境温度低于24⁰C时，TCM-24对环境放出热量使环境温度升高。TCM-24是专门设计“温度控制点”为24⁰C，用于建筑楼房窗户系统自动调节控制室内温度，达到节省加热能量和节省冷却能量的目的。

4、应用方法：

(1) TCM-24用于窗户框架：



图1、窗户框架的中空部分填充加工包装好的TCM-24示意图



在窗户框架安装成型前，把合适加工包装好的TCM-24插入窗户框架的中空部分。

(2) TCM-24用于窗户玻璃：



图2、预先装好的TCM带条，粘贴于室内一面的窗户框架和玻璃之间边缘部分示意图

预先填充好TCM的带条粘贴于室内一面的窗户框架和玻璃之间的边缘部分。既可在已经安装好的窗户粘贴，也可在未安装的窗户上粘贴。

5、使用TCM-24效益：

- (1) 在窗户玻璃上应用：可节省能量10~15%。
- (2) 在窗户框架上应用：可节省能量15~30%。
- (3) 在窗户玻璃和窗户框架上都应用：可节省能量20~40%。

6、盛装材料：

盛装TCM-24的材料可为塑料、玻璃、不锈钢、玻璃纤维材料等。

7、存放：

TCM-24应储放于阴凉、干燥的地方。不用时应盖好盛装容器盖。储放温度为0~40°C，湿度为RH<75%。

8、安全：

TCM-24不可食，不能入口眼，不宜皮肤衣服接触。处理时应戴上化学防护手套。如果误食，须看医生。使用前详细参看“材料安全数据”(MSDS)。

9、有效期：

TCM-24在不受污染和装于密闭容器内时，有效期可为15年。