

safe Telement®
helps prevent cooking fires before they start

Fire Prevention

WHY SAFE-T-ELEMENT®?

Safe-T-element® was created to address one of the most serious problems in the household: stovetop cooking fires. Stovetop cooking is the Number One cause of household fires in North America.

Most fire safety products alert you to the fact that there is already a problem or help you suppress a fire. **Safe-T-element®** was engineered to help prevent cooking fires before they start.

WHAT IS SAFE-T-ELEMENT®?

Safe-T-element® is a patented product upgrade for electric coiled stovetops, engineered to prevent cooking fires before they start while reducing the amount of electricity required to cook.

An element on high, red hot and unattended for even a short period of time, is one that has reached a dangerously high temperature and is out of control. That amount of heat is never necessary. No one needs 700°C / 1291°F when oil ignites as low as 370°C / 698°F.

Each **Safe-T-element®** is an electronically controlled solid cover plate that is installed on top of your existing stovetop burner. A patented control unit inside the stove controls the temperature of the plate cover allowing it to only reach a maximum of 350°C / 662°F.

When the plate reaches a temperature of 350°C / 662°F it automatically shuts the stove off and conversely as it cooks to just below 350°C / 662°F the stovetop is turned on again. the burner plate maintains a temperature of 350°C / 662°F more than enough for efficient and effective cooking, while not allowing household materials to ignite.

In addition to fire prevention the **Safe-T-element®** will reduce the amount of electricity required to cook because it controls the cooking process. Not only does **Safe-T-element®** protect tenants and properties but it will actually pay for itself over time.

Safe-T-element® is certified by CSA International to UL Std. 858 and CSA-C22.2 No. 61-M89 and has been awarded the Home Safety Council's Commendation Award for Product Innovation for Consumer Safety.*



Safe-T-element® is endorsed by the Washington Fire Chiefs, Virginia Fire Chiefs Association, North Carolina Association of Fire Chiefs, Housing Authorities Risk Retention Pool, Assisted Housing Risk Management Association and Social Housing Services Corporation.

* **Pioneering Technology Corp.** is a recipient of the Home Safety Council's Commendation Award for Product Innovation for Consumer Safety for Safe-T-element®. Use of the Commendation Seal next to the product indicates that the Council has evaluated the Safe-T-element® based upon information furnished by the manufacturer and believes the product demonstrates an innovative use of safety features. The Council does not test or endorse any products.

Safe-T-element® is a trademark of Pioneering Technology Corp.

With **Safe-T-element®**, enjoy the peace of mind that you will have knowing that your tenants and buildings are safer from the dangers associated with stovetop cooking and enjoy the benefits of lower monthly electricity costs.



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Smart Technology, Safer Households

A retrofit solution for electric ranges helps curb cooking fires

By Earl Diment

#1 cause of residential fire in military housing

150,200 cooking fires each year

500 deaths and 4,600 civilian fire injuries

Unattended cooking is the leading cause of home fires

Ranges accounted for the largest share (59%) of home cooking fire incidents

Cooking accounts for 60% of apartment fires

Seniors are most vulnerable

4.7 million home fires go unreported each year

Source: NFPA 2009

Between 2003 and 2006, U.S. fire departments responded to an estimated 150,200 home structure fires involving cooking equipment per year, according to the National Fire Protection Association (NFPA). Unattended cooking fires are the leading cause of these fires. Additionally, as a direct result of these fires, there was an annual average of 500 deaths, 4,660 injuries, and \$756 million in direct property damage. Statistically, ranges with or without ovens account for the majority (59 percent) of total reported home structure fires involving cooking equipment, and 88 percent of deaths and 77 percent of injuries.

But a technology now in use at many military installations is supporting a safer living environment for service members and their families. It is a retrofit cook-top technology that reduces the high-end cooking temperature on a coil type electric range. The Safe-T-element serves as a governor that allows the temperature of the cooking surface to get hot enough to ensure that cooking performance is not sacrificed, even though the temperature is below the point where oil, food, and common household items will auto-ignite. Because this technology limits the temperature it also has the added benefit of reducing the energy use of the range by as much as 50 percent.

This technology also drastically

reduces “false alarms” because it will not allow auto-ignition. If someone does forget something on the range or leaves a combustible too close, the result is a slow charring of the food or item. In this process the amount of smoke generated may be a nuisance in the apartment, but in most cases will never generate enough smoke to affect the entire building alarm system. This means fewer building alarms, resulting evacuations, and fire service responses.

Technology specifications

This cook-top technology has been locally amended into the military UFC code 3-600-01 as an alternative means and method to hood and vent protection for commercial residential applications. This refers to “communal” or shared cooking facilities in base multiresidential housing. As a result, fire protection engineers from the Air Force adopted the Safe-T-element technology, which is available as a retrofit or pre-installed on new stoves.

Unattended equipment is the leading cause of cooking fires. The NFPA study also reports that the estimated direct property damage from unreported cooking fires is \$328 million per year. Therefore, the estimated direct property damage from cooking fires exceeds \$1 billion annually.

Another important factor is the number of fire service runs per year attributed to burnt food. These events

don’t generate a fire and often are overlooked. The reality is that, other than the fact that the firefighters don’t fight a fire, everything else is identical. There is fear, building-wide evacuation, and a code three emergency response, which incidentally is one of the major causes of firefighter fatalities. Because the response and evacuation procedures seldom go perfectly, these events create a lack of confidence in the building systems and evacuation plans, and create apathy in tenant response for future alarms.

Because of these statistics, the military has taken the next step and has begun installing this technology in its barracks and residential housing units. One example of this is the Naval Station in Sasebo, Japan, which was recently the focus of an 18-month case study in which the Safe-T-element cooking technology was installed on ranges in over 600 housing units on base. Navel Fleet Activities Commander Gerald Clark said of the results, “This technology

Unattended equipment is the leading cause of cooking fires. The NFPA study also reports that the estimated direct property damage from unreported cooking fires is \$328 million per year.

does everything it’s supposed to do—eliminate cooking fires.” Kadena Air Force Base, also in Japan, has recently started installing the first 1,200 units on its base, and 15 other military housing communities stateside have also begun installation programs.

Strategic solutions

This, or any other technology, is not meant to replace public education. Like at Sasebo, the military does an excellent job with public education; no one solution is ever the only answer. It is important that we continue to promote safe cooking practices, and all the same messages still apply. But this technology does

provide a level of safety when things go wrong or accidents happen.

Unattended cooking is a very difficult behavior to change, and there are many reasons for that. Cooking is an event that occurs multiple times every day. It is unrealistic to expect that, with our busy lives and, in some cases, bad habits, at some point we won’t have a momentary lapse in focus. As you know and as evidenced by the statistics, a momentary lapse is all it takes. ■

Earl Diment is the Chief Safety Officer for Pioneering Technology Corp. He also served for 25 years with Portland Fire & Rescue. Reach him at ediment@pioneeringtech.com.

Starting in 2007 the Safe-T-element® cooking system was implemented over time as part of Sasebo’s overall fire prevention program. The Safe-T-element® was installed as housing units were being renovated or before new personnel moved in to ensure a seamless transition. As the product began being installed in 2007 the base started to see an additional decline in unattended cooking incidents and stovetop cooking fires. By the beginning of 2008 approximately 95% of Sasebo’s housing units were equipped with the Safe-T-element® technology. **During 2008/09 Sasebo’s fire education and prevention efforts in combination with the installation of the Safe-T-element® technology resulted in the elimination of ALL stovetop cooking fires throughout the CNFI/CFAS Sasebo Military Installations.**

Safe-T-element® is now mandated for all stoves in residential housing at the Sasebo Naval Station. All scope of work, engineering and technical drawings include the Safe-T-element® technology as a requirement.

“This product does everything it is supposed to do – helps eliminate cooking fires.”

Fire Chief, Gerald Clark – Commander U.S. Naval Forces Fleet Activity Sasebo, Japan

Safe-T-element® is currently installed at Cape Canaveral Air Station (FL), Eielson AFB (AK), Ellsworth AFB (SD), Nellis AFB (NV), Randolph AFB (TX), Tyndall AFB (FL), Wright Patterson AFB (OH), Kadena AFB (Japan), Hickam AFB (HI), Alice Springs AFB (Australia), Sasebo Naval Station (Japan), Fort Campbell (KY), Norfolk Naval Station (VA), Elmendorf AFB (AK), Naval Air Station Jacksonville (FL), Arnold AFB (TN), Dyess AFB (TX), Actus Lend Lease (Various), Forest City Enterprises (Various), Hawaii Military Communities (HI), Misawa AFB (Japan), Yokota AFB (Japan), RAF Alconbury (UK), Malmstrom AFB (MT), and Naval Base Kitsap (WA).

Safe-T-element® is now recognized by the U.S. Military for both commercial and residential housing applications:

Safe-T-element® was originally recognized by the US Air Force’s Civil Engineer Support Agency as an alternative means of compliance with the military’s UFC 3-600-01 military code requirement for a range fire safety system. At present Safe-T-element® is one of only two technologies that **MUST** be used for all US Air Force “commercial” stove installations.