

Учитывая, что конструктивное решение теплоизоляционной облицовочной плиты практически аналогично легкой штукатурной системе, изготовление ее выполняется по технологии рекомендуемой [1].

Устройство в теплоизоляционной облицовочной плите пазов длиной и высотой, равной половине требуемой толщины слоя утеплителя, позволяет применить стык типа «фолдинг», который позволяет обеспечить теплоизоляционные характеристики стенового ограждения на весь период эксплуатации здания (рис. 2).

Предлагаемое конструктивное решение возведения кирпичных зданий позволяет технологический процесс их строительства перевести в полностью механизированный.

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SAVE ELECTRICITY AND SAVE THE WORLD

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Being energy efficient is both good for the environment as well as your pocket. With that in mind, today we will learn easy ways to reduce your electricity consumption, lower your bills, and do your bit for the planet.

In this article I am going to talk about how to use electricity economically at home. However, at the same time I will mention about its nature, how people generate it, how it effects to the environment, when, where and how it used and etc.

First of all let's talk about an electricity. Electricity is the best gift of science to humankind. If someone would ask me about inventions which were invented by human being, I will put electricity at the top all of them. I am sure that all of you will agree with me about it. We must thankful to the scientists like Thomas Edison, Nicola Tesla, Benjamin Franklin and others for their great works which were done in the electrical sphere. Electricity is an essential resource for a thriving life and it is an important resource needed to live in. It runs our daily life. This is the age of electricity. Life without electricity would be impossible to imagine now. Electricity is a source of light, heat, and other comforts. It is the invisible current that makes to the running of giant factories run house lighting to streets and parks. Electricity supplies all types of energy to people in order to improve their scientific inventions and increase his social amenities. Heating and cooling processes are also executed by it. All you need to do is just switch on a button and there you have ample power.

Especially now that we have entered the 21st century, there is hardly anything that does not work on electricity. However, due to the huge demand for electricity worldwide, it has become hard to produce electricity and provide it to everyone. Radio, television, cooler, heater, washing machine, air conditioners, all depend on electricity. There is no grandeur in festivals and celebrations without electricity.

Electricity has brought a great revolution in the field of medical science. It plays an important role in the treatment of diseases by electrotherapy. Electricity has changed the way of farming. In fact, it has mechanized farming. It has helped us to distribute the water of the rivers into canals and irrigate dry and barren lands. Without electricity, we cannot imagine industrial growth. All types of industries require electricity to function.

The introduction of electrical devices has simplified labor in every form in the house, in the office, and in the factory. Among domestic services, equipment of every type is functioned more cheaply and efficiently by electricity. Many labor-saving and time-saving devices using electrical energy have been introduced, to minimize drudgery at home and office.

From heating and cooling to electronics and appliances, it takes a lot of energy to power our daily lives. Our homes use 37 percent more energy today than they did in 1980. But without energy efficiency through technology innovation and federal **energy conservation standards** this number would be a lot higher. In fact, even though our total energy use has grown, our energy use per household is down about 10 percent, despite that our homes are larger and contain more devices. Thanks to breakthroughs by our **National Labs**, industry and academia, equipment we use in our homes is more energy efficient than ever before, saving consumers money and slashing carbon pollution.

Electricity generation depends largely on non-replaceable resources like natural gas, coal. Thermal power needs coal and other fossil fuel for generating electricity. This fuel has limited reserves and it will take millions of years to replenish these reserves. It is also produced from other sources like nuclear energy, solar energy, etc. but still, production is very less. Efforts are being made to produce more electricity from solar, wind, and nuclear sources so that the natural sources can be conserved.

Many people do not realize that we must conserve resources like electricity. We must take the necessary steps to stop the wastage of electricity because if we won't, there will be no light in this world. Most importantly, we should not be careless when it comes to electricity, and only then we can save ourselves from the darkness.

In spite of it if proper steps and measures are taken to Save Electricity then it is possible that both mankind that is to come and the mankind currently existing can use them.

We must understand that small steps taken to save electricity can go a very long way. For example, if every person at their home switches off the fan when not in use, then thousands of watts of electricity can be saved. Similarly, if we limit the use of our air conditioners, ovens, heaters, geysers, iron and so on, we can save huge amounts of electricity. There are many different ways in which we can save electricity and thus conserve energy. At home, elementary actions should be taken such as unplugging computers, turning off lights in order to reduce our consumption of electricity, thereby conserving energy. You can install thermostat technology at your home and connect the different appliances and gadgets that draw power from all those outlets that are not even in use. Solar panels can be planted to reduce the consumption of electricity.

Furthermore, we can use more natural light. In the daytime instead of switching on lights and fans, we can keep our windows open to get natural light and air.

More importantly, we should cut down our television time and also motivate kids to play outside or read something. Likewise, it is advisable to use a laptop instead of a desktop because desktops consume more energy as compared to laptops. Also, we must switch off the fan if we are using the air conditioner, to avoid unnecessary wastage.

If it's time to replace the fridge, the washing machine, the tumble dryer or the Hoover, it's a good idea to look into energy ratings. Most modern appliances are more efficient than older models, but the rating will help you choose the most efficient model. The ratings, which are compulsory, range from A to G with A being the most efficient. However the most

valuable piece of information is the actual amount of electricity that is used per cycle or per hour. Some modern washing machines and dishwashers can do a full load for less than two units of electricity (or ~ 40 cent). If you wash a load a day, it could save you \$ 65 per year compared to older models - which should pay for your new washer in just a few years!

Smart devices allow you to remotely control your home's heating and lighting via your smartphone or an internet-connected device. This means you've more control over your heating and lighting, which allows for greater convenience and savings on your energy bills. For example, if you're stuck in traffic after work and will be an hour late getting home, you can easily set your heating to come on later for you, so you're not wasting money heating an empty home. The best way to start saving on your electricity costs is to get smart with how you use electricity. Now let's see 21 small changes can add up to big savings on your bills and at the same time will help save more electricity. Make these 21 no-cost changes in your home and you can save electricity and \$500 or more a year, depending on a number of factors including the size of your home.

1. **Turn off unnecessary lights.** Two 100-watt incandescent bulbs switched off an extra two hours per day could save you \$15 over a year. Better yet, switch to LED which consumes less electricity.

2. **Use natural light.** A single south-facing window can illuminate 20 to 100 times its area. For that reason, firstly before buying new house or building new one pay attention to it. Turning off one 60-watt bulb for four hours a day is a \$9 saving over a year.

3. **Use task lighting.** Turn off ceiling lights and use table lamps, track lighting and under-counter lights in work and hobby areas as well as in kitchens.

4. **Take shorter showers.** Hot water is expensive. If two people in your home cut their shower time by a minute each, you could save \$30 over a year.

5. **Turn water off when shaving, washing hands, brushing teeth.** Reduce your hot water usage by 5% to save about \$19 and at the same the time you won't use pump which also consumes electricity.

6. **Fix that leaky faucet.** Fixing a hot water leak in your faucet can save up to \$9 per year in energy costs.

7. **Unplug unused electronics.** Standby power can account for 10% of an average household's annual electricity use. Unplug unused electronics and save \$50 a year.

8. **Ditch the desktop computer.** If you're still using that old desktop, recycle it and switch to your laptop. If you use your laptop two hours per day, you'll save \$4 over a year.

9. **Not home? Turn off the air conditioner.** Turn off that old window unit air conditioner for five hours a day while you're away. Do that for 60 days over a summer and you'll save \$16.

10. **Recycle or donate that old TV.** Recycle or donate your old TV. Even if you're just using it an hour a day, that 42-inch LCD is costing you six bucks a year.

11. **Manage your thermostat.** If you have electric heat, lower your thermostat by two degrees to save 5% on your heating bill. Lowering it five degrees could save 10%.

12. **Be strategic with window coverings.** Promote airflow through your home and block the afternoon sun. You could save you up to \$10 (2 fans) or \$45 (1 window unit AC) during the summer.

13. **Reduce heat in the kitchen.** Avoid using the oven in summer – try salads, smoothies, barbecue. You'll reduce the heat in your home, save on your home cooling costs.

14. **Run full loads.** Cut one load of wash per week, even if you're already using cold water only, and you could save \$18 a year on your laundry costs.

15. **Wash laundry in cold.** By switching from hot to cold water for an average of three loads per week, you could save up to \$22 per year on your energy bill.

16. **Hang dry your laundry.** If you do eight loads of laundry a week and use your clothesline for 50% of those clothes, you could save \$65 a year.

17. **Dry full loads of laundry.** Aim for dryer that's about three-quarters full. It'll mean fewer loads over time, and help your dryer work more efficiently.

18. **Be efficient with refrigeration.** Maintain clean, air-tight refrigerator door seals to keep the cold air in and warm air out.

19. **Unplug your second fridge.** Unplug that second fridge and save up to \$55 a year. Freeze plastic jugs of water and use them in a cooler when you need them.

20. **Skip the heat-dry setting for the dishwasher.** That heat-dry setting is expensive. De-select it and, based on one load of dishes a day, save up to \$27 for the year.

21. **Use the microwave, crock pot or toaster oven.** A microwave takes 15 minutes to do the same job as 1 hour in an oven. Use a microwave instead of your oven 4 times a week and save \$13/year.

First step is the hardest at the all works. However, I advise you take a note of your bills at the beginning of the year and do those things and compare it with the last one at the end of year. Maybe those prices which we had mentioned above seemed petty but at the end you will recognize that you were wrong. A penny saved is a penny gained!

Electricity is the backbone of modern society. Our life will go back to the primitive age without electricity. There is a need for rational use of electricity, as it is largely produced from non-renewable sources like coal and water. Alternative sources of electricity should be explored to meet the gap between its demand and supply. We should take every step to conserve sources of electricity for future generations. *Save electricity* to save this world.

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ИСПОЛЬЗОВАНИЕ СОЛНЕЧНЫХ БАТАРЕЙ В ДОРОЖНОМ ОСВЕЩЕНИИ

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В настоящее время развитие энергетики и связанные с ней экологические вопросы считаются одной из главных глобальных проблем в мире. При этом внедрение технологий с использованием альтернативных источников энергии считается приоритетным направлением развития энергетики во многих странах мира.

Туркменистан — страна, большую часть которой занимают плоские равнины и пустыни. Именно поэтому здесь преобладает континентальная и сухая погода. В Туркменистане более мягкая погода преобладает в горных районах и на побережье Каспийского моря, являющегося западной границей страны. Максимум до -3°C в пустынных районах были зафиксированы температуры зимой и высокие $+50^{\circ}\text{C}$ летом.

По оценкам туркменских ученых, среднегодовая интенсивность солнечного излучения в Туркменистане составляет 600 Вт на квадратный метр, что позволит электростанции общей площадью в десятки метров вырабатывать более 14 миллиардов киловатт-часов энергии в год. Солнечные батареи и аккумуляторы обладают очень высокой чувствительностью к перепадам температур.

Условия использования солнечных батарей в нашей стране:

- Температурный режим, средний минимум и абсолютный минимум;