***Benefits of PVC over other materials***

*PVC is replacing traditional building materials such as wood, metal, concrete and clay in many applications.*

*Versatility, cost effectiveness and an excellent record of use mean it is the most important polymer for the construction sector, which accounted for 60 per cent of European PVC production in 2006.*

*Polyvinyl chloride, PVC, is one of the most popular plastics used in building and construction. It is used in drinking water and waste water pipes, window frames, flooring and roofing foils, wall coverings, cables and many other applications as it provides a modern alternative to traditional materials such as wood, metal, rubber and glass. These products are often lighter, less expensive and offer many performance advantages.*

***Strong and lightweight***

*PVC's abrasion resistance, light weight, good mechanical strength and toughness are key technical advantages for its use in building and construction applications.*

***Easy to install***

*PVC can be cut, shaped, welded and joined easily in a variety of styles. Its light weight reduces manual handling difficulties.*

***Durable***

*PVC is resistant to weathering, chemical rotting, corrosion, shock and abrasion. It is therefore the preferred choice for many different long-life and outdoor products.*

*For example, it is estimated that more than 75 per cent of PVC pipes will have a lifetime in excess of 40 years with potential in-service lives of up to 100 years. In other applications such as window profiles and cable insulation, studies indicate that over 60 per cent of them will also have working lives of over 40 years.*

***Cost-effective***

*PVC has been a popular material for construction applications for decades due to its physical and technical properties which provide excellent cost-performance advantages. As a material it is very competitive in terms of price, this value is also enhanced by the properties such as its durability, lifespan and low maintenance.*

***Safe material***

*PVC is non-toxic. It is a safe material and a socially valuable resource that has been used for more than half a century. It is also the world's .PVC most researched and thoroughly tested plastic. It meets all international standards for safety and health for both the products and applications for which it is used.*

*The study 'A discussion of some of the scientific issues concerning the use of PVC' (1) by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) in Australia concluded in 2000 that PVC in its building and construction applications has no more effect on the environment that its alternatives.*

*Substitution of PVC by other materials on environmental grounds with no additional research or proven technical benefits will also result in higher costs.*

*Restrictions on PVC use in construction applications would not only have negative economic consequences but also have wider social impacts, such as in the availability of affordable housing.*

***Fire resistant***

*Like all other organic materials used in buildings, including other plastics, wood, textiles etc., PVC products will burn when exposed to a fire. PVC products however are self-extinguishing, i.e. if the ignition source is withdrawn they will stop burning. Because of its high chlorine content PVC products have fire safety characteristics, which are quite favourable as. they are difficult to ignite, heat production is comparatively low and they tend to char rather than generate flaming droplets.*

*The most important toxicant emitted during fires is carbon monoxide (CO), which is responsible for 90 to 95 % of deaths from fires. CO is a sneaky killer, since we cannot smell it and most people die in fires while sleeping. And of course CO is emitted by all organic materials, be it wood, textile or plastics.*

*PVC as well as some other materials also emits acids. These emissions can be smelled and are irritating, making people try to run away from the fire. A specific acid, hydrochloric acid (HCL), is connected with burning PVC . To the best of our knowledge, no fire victim has ever been proven scientifically to have suffered HCl poisoning.*

*So there are very good reasons to use PVC products in buildings, since they perform well technically, have good environmental and very good economic properties, and compare well with other materials in terms of fire safety.*

***Good insulator***

*PVC does not conduct electricity and is therefore an excellent material to use for electrical applications such as insulation sheathing for cables.*

***Versatile***

*The physical properties of PVC allow designers a high degree of freedom when designing new products and developing solutions where PVC acts as a replacement or refurbishment material.*

*PVC has been the preferred material for scaffolding billboards, interior design articles, window frames, fresh and waste water systems, cable insulation and many more applications.*

***Advantages***

* *Soft Shrink Capabilities – Lower Shrink tension.*
* *Optics / Appearances – provides transparent clarity, gloss and sparkler, enhances product appearance.*
* *Machineability – Stiffer film and easier to work on machine.*
* *Work on Candles – Does not have wet look after shrinkwrapped.*
* *Cheaper Price*

***Disadvantages***

* *Seal Integrity – Relatively weak heat sealing*
* *Smoke / Odor – The fumes from the sealing is not healthy to workers.*
* *Corrosive – The machine can get rusty easier.*
* *Low Abuse Resistance – Easier break during handling / transportation.*

***PVC Pipes: Advantages and Disadvantages***

*PVC is a type of plastic material that is used in sewer lines. Modern sewer pipes are mostly made of plastic. Contractors found out that PVC offers a lot of benefits which is why they made it one of their primary materials in creating sewer pipes. Despite its ridiculous amount of perks, PVC has some drawbacks that make it an imperfect pipe material. Discover more about the advantages and disadvantages of PVC below.*

***Easy transportation and installation***

*Some pipe materials such as VCP and metal are a bit of trouble when it comes to installation. This is because the said pipe components are extremely heavy. Dividing these pipes into different sections is even more troublesome due to the fact that it’s difficult to cut. These pipe materials are unlike PVC which is lightweight. Contractors like PVC since transporting this pipe is no hassle at all. Cutting it is also easy which makes necessary preparations faster. PVC being lightweight doesn’t mean it’s not durable and dependable.*

***Corrosion resistance***

*Having a pipe material that is resistant to corrosion and rusting is pretty much a staple in sewer pipe installation. After all, sewer systems have a lot of sewage wastes and chemicals that can deteriorate or corrode even the toughest materials. Any pipe material will decay or lower its quality if used in sewer lines. This is why one of the criterions in selecting a great sewer pipe material is its ability to be exposed to harsh chemicals and wastes for a long period of time. PVC pipe materials are very resistant to various types of chemicals and corrosion. There are many tests that prove the durability and protective properties of PVC.*

***Less joint connections***

*One of the problems in installing a sewer pipe in a large project is the connection of pipe sections or joint-connections. This process can take a long time to finish which is why some pipe installation projects takes a lot of time to be done. PVC pipes can be produced with long lengths. This is a great feature since it reduces the need for conjoining pipe sections. Not only will the installation done at a faster rate but it also lower the risks of leakage due to less friction from joint connections.*

***Disadvantages***

***1. A bit brittle due to its lightweight***

*While PVC isn’t exactly a weak pipe but it isn’t the strongest either. After all, plastics aren’t known for heavy construction since plastic is relatively weaker compared to metal. Cast iron pipes used for sewer lines are stronger than PVC. With that said, PVC shouldn’t be installed on surface areas that are exposed to strong pressure frequently. Contractors should also be careful when transporting the material to avoid damage.*

***2. Doesn’t do well in high temperature***

*High temperature can lower the quality and resistance properties of PVC which is why it’s not recommended to install this pipe material during summer season. The heat degrades the pipes and can even possibly lower its lifespan.*