

Chapter 1 : Pipes General - Materials for Pipes according to frequently used ASTM Grades -

Introduction: Your home plumbing system will have different types of piping materials for different uses, including fresh water supply, waste drainage, irrigation, gas pipes for appliances, and so on.

Types Pipe fittings are widely demanded for any piping and plumbing systems used in industrial and commercial applications. Fittings allow pipes to be joined or installed in the appropriate place and terminated or closed where necessary. Fittings are available in various shapes and sizes. They can be expensive, require time, and different materials and tools to install. They are an essential part of piping and plumbing systems. There are thousands of specialized fittings manufactured. Each type of pipe or tube requires its own type of fitting, but usually all pipe fittings share some common features. Pipe fittings are available everywhere where plumbing materials are sold. How are pipe fittings connected to pipes? Pipe fittings are either male fittings or female fittings. In threaded pipe fittings, female threads are on the inside while male threads are on the outside. Pipe fittings that have one female end and one male end are called street fittings. Pipe fittings are used to connect pipes or tubes in two ways: Threaded pipes screw together to connect or join. Generally metal pipes are threaded and they have threaded fittings. Slip fit pipes use sleeves that slip into one another. The plastic pipes are either threaded or slip fit. Accordingly pipe fittings are organized as follows: Are screwed into the inside of pipe end of a larger diameter with internal threading. Receive male threaded pipe fittings. There are no threads. Made to slip into slightly larger male sleeve. Purpose of a pipe fitting: The basic purposes of any pipe fitting are as follows: Connecting the bores of two or more pipes or tubes. Connecting a pipe to a different apparatus. Maintaining or regulating the flow. Closing and sealing a pipe. Selection criteria for pipe fittings: Pipe fittings are to be chosen considering certain factors. They are as follows: When purchasing pipe fittings, you should be aware of the fact that a fitting can have two different connector types. One end of the fitting might be female threaded while the other female threaded. One end might be male slip while the other end is threaded, in the case of plastic fittings. They can also have matching ends which can accommodate any requirement. As a rule, the pipe fitting should be of the same material as the material used in the making of the pipe in which it is to be fitted. However, in some cases, materials conforming to certain codes or standards can also be used in pipes of another material. To keep the flow consistent, the ends of pipe fittings should be slightly larger than the rest of the pipe so that they can accommodate connections without narrowing the inner diameter ID of the pipe. Besides pipe materials, pipe fittings are identified by the type of fitting "€" threaded or slip, male or female. When measuring the size of pipe fittings, it is to be noted that the male threaded fittings are measured to the outside edge or OD, while female fittings are measured to the inside edge of the inlet or ID. Just as pipes are available in a number of different thicknesses or "schedules", so also the pipe fittings. Each pipe or tube is designed to carry certain specific types of fluids, liquids, gases, chemicals under varying conditions. Accordingly, the pipe fittings are also available in variety of designs. There are certain standards and codes set by various organizations by which the different pipe fittings are graded. Types of pipe fittings: Depending on the purposes served, pipe fittings can be categorized as under: Pipe fittings to extend or terminate pipe runs: For example , Elbows Pipe fittings to connect two or more pipes: For example, Reducers, Bushings, Couplings Pipe fittings to manage or regulate flow: For example, Valves Pipe fitting tools: For example, Pipe fasteners Pipe flanges On the basis of the above categories, we give below an idea about the various types of pipe fittings available in the market.

Chapter 2 : Using the Right Piping Material for Your Plumbing Application - Facility Management

Recognizing the different types of pipes within your house is vital to knowing the right repair technique. The most common pipes used today are copper, PVC, or ABS. However, when dealing with older homes, you might encounter a number of other piping material.

You can help by adding to it. December Inlaid Pipe Bowl with Two Faces, early 19th century, Brooklyn Museum Some Native American cultures smoke tobacco in ceremonial pipes , and have done so since long before the arrival of Europeans. Other American Indian cultures smoke tobacco socially. Tobacco was introduced to Europe from the Americas in the 16th century and spread around the world rapidly. As tobacco was not introduced to the Old World until the 16th century, [2] the older pipes outside of the Americas were usually used to smoke various other substances, including hashish , a rare and expensive substance outside areas of the Middle East, Central Asia and India, where it was then produced. Parts[edit] Parts of a pipe include the 1 bowl, 2 chamber, 3 draught hole, 4 shank, 5 mortise, 6 tenon, 7 stem, 8 bit or mouthpiece , 9 lip, and 10 bore. The broad anatomy of a pipe typically comprises mainly the bowl and the stem. The bowl 1 which is the cup-like outer shell, the part hand-held while packing, holding and smoking a pipe, is also the part "knocked" top-down to loosen and release impacted spent tobacco. Inside the bowl is an inner chamber 2 space holding tobacco pressed into it. This draught hole 3 , is for air flow where air has travelled through the tobacco in the chamber, taking the smoke with it, up the shank 4. Materials[edit] The bowls of tobacco pipes are commonly made of briar wood, meerschaum , corncob , pear-wood or clay. Less common are other dense-grained woods such as cherry , olive , maple , mesquite , oak , and bog-wood. Minerals such as catlinite and soapstone have also been used. Pipe bowls are sometimes decorated by carving, and moulded clay pipes often had simple decoration in the mould. Unusual, but still noteworthy pipe materials include gourds, as in the famous calabash pipe, and pyrolytic graphite. Metal and glass are uncommon materials for tobacco pipes, but are common for pipes intended for other substances , such as cannabis. The stem needs a long channel of constant position and diameter running through it for a proper draw, although filter pipes have varying diameters and can be successfully smoked even without filters or adapters. Because it is molded rather than carved, clay may make up the entire pipe or just the bowl, but most other materials have stems made separately and detachable. Stems and bits of tobacco pipes are usually made of moldable materials like vulcanite , lucite , Bakelite , and soft plastic. Less common are stems made of reeds , bamboo , or hollowed out pieces of wood. Expensive pipes once had stems made of amber , though this is rare now. Briar[edit] A Peterson briar pipe The majority of pipes sold today, whether handmade or machine-made, are fashioned from briar French: Briar is a particularly well suited wood for pipe making for a number of reasons. The first and most important characteristic is its natural resistance to fire. The second is its inherent ability to absorb moisture. The burl absorbs water in nature to supply the tree in the dry times and likewise will absorb the moisture that is a byproduct of combustion. Briar is cut from the root burl of the tree heath Erica arborea , which is native to the rocky and sandy soils of the Mediterranean region. Briar burls are cut into two types of blocks; ebauchon and plateaux. Ebauchon is taken from the heart of the burl while plateaux is taken from the outer part of the burl. While both types of blocks can produce pipes of the highest quality, most artisan pipemakers prefer to use plateaux because of its superior graining. It has been used since the 17th century and, with clay pipes, represented the most common medium for pipes before the introduction of briar as the material of choice in the 19th century. The word "meerschaum" means "sea foam" in German , alluding to its natural white color and its surprisingly low weight. Meerschaum is a very porous mineral that absorbs elements of the tobacco during the smoking process, and gradually changes color to a golden brown. Old, well-smoked meerschaum pipes are valued by collectors for their distinctive coloring. Meerschaum pipes can either be carved from a block of meerschaum, or made from meerschaum dust collected after carving and mixed with a binder then pressed into a pipe shape. The latter are far less absorbent, color in blotches, and lack the smoking quality of the block carved pipe. It has been claimed that this fragility was somewhat intentional as it was utilized by Colonial American tavern keepers, for example, in renting the clay pipes to patrons. When

the patron was done smoking the pipe and returned it to the keeper, the end of the stem was simply broken off so as to be ready for the next patron. However there is no documentary evidence for this practice; it is known that communal pipes used in taverns were cleansed by being heated in an oven on special iron racks. The preferred material was pipeclay or "tobacco pipe clay", which fires to a white colour and is found in only certain locations. In North America, many clay pipes were historically made from more typical terracotta-coloured clays. According to one British writer in , the French preferred old pipes and the English new, the middle class preferred long stems and the working class preferred short. Higher quality pipes are made in a labour-intensive hand shaping process. Clays burn "hot" in comparison to other types of pipes, so they are often difficult for most pipe-smokers to use. Their proponents claim that, unlike other materials, a well-made clay pipe gives a "pure" smoke with no flavour addition from the pipe bowl. In addition to aficionados, reproductions of historical clay styles are used by some historical re-enactors. Broken fragments of clay pipe can be useful as dating evidence for archaeologists. The size of bowls also increased over time as tobacco became a cheaper commodity, and later pipes tend to be more decorated. Calabash gourds usually with meerschaum or porcelain bowls set inside them have long made prized pipes, but they are labour-intensive and, today, quite expensive. Because of this expense, pipes with bodies made of wood usually mahogany instead of gourd, but with the same classic shape, are sold as calabashes. Both wood and gourd pipes are functionally the same with the important exception that the dried gourd, usually being noticeably lighter, sits more comfortably in the mouth. They consist of a downward curve that ends with an upcurve where the bowl sits. Beneath the bowl is an air chamber which serves to cool, dry, and mellow the smoke. There are also briar pipes being sold as calabashes. These typically do not have an air chamber and are so named only because of their external shape. A calabash pipe is rather large and easy to recognize as a pipe when used on a stage in dramatic productions. Although a British newspaper cartoon of the early s depicts the British actor H. A. Saintsbury as the Great Detective smoking what may be a calabash pipe, its now-stereotypical identification with Sherlock Holmes remains a mystery. Some commentators have erroneously associated the calabash with William Gillette , the first actor to become universally recognized as the embodiment of the detective. Gillette actually introduced the curving or bent pipe for use by Holmes, but his pipe was an ornate briar. Gillette chose a bent pipe, more easily clenched in the teeth when delivering lines. While there are promotional stills of Basil Rathbone smoking calabash pipes as Holmes for other projects, most notably his radio show, in his first two outings as Holmes produced by 20th Century-Fox as taking place in the Victorian era, Rathbone smoked an apple-bowled, black briar with a half bend, made by Dunhill, the company known for making the best pipes at that time. In the next dozen films, the series produced by Universal Studios , with Holmes and Watson updated to the s, Rathbone smokes a much less expensive Peterson half bend with a billiard-shaped bowl. A calabash is introduced in *The Spider Woman* but Holmes does not smoke it. In the original chronicles, such as " *The Adventure of the Copper Beeches* ", Sherlock Holmes is described as smoking a long-stemmed cherrywood but not a churchwarden pipe which he favored "when in a disputatious, rather than a meditative mood. Corncob pipe The specifically American style of pipes made from corncobs are cheap and effective, even if some regard them as inelegant. The cobs are first dried for two years. Then they are hollowed out to make a bowl shape. The bowls are dipped in a plaster-based mixture and varnished or lacquered on the outside. Shanks made from pine wood are then inserted into the bowls. The first and largest manufacturer of corncob pipes is Missouri Meerschaum , located in Washington, Missouri , in the United States. Corncob pipes remain popular today because they are inexpensive and require no "break-in" period like briar pipes.

Chapter 3 : Pipe Fitting by Types, Types of Pipe Fittings

Of the different types of plastic pipe used for water supply, PVC has a wide variety of plumbing uses, from drainage pipe to water mains. It is most commonly used for irrigation piping, home, and building supply piping. PVC is also very common in pool and spa systems. PVC is often white but it can also come in other colors.

Casing for concrete pilings used in construction projects High-temperature or high-pressure manufacturing processes The petroleum industry: Oil well casing Oil refinery equipment Delivery of fluids, either gaseous or liquid, in a process plant from one point to another point in the process Delivery of bulk solids, in a food or process plant from one point to another point in the process The construction of high pressure storage vessels note that large pressure vessels are constructed from plate, not pipe owing to their wall thickness and size. Additionally, pipe is used for many purposes that do not involve conveying fluid. Handrails , scaffolding and support structures are often constructed from structural pipe , especially in an industrial environment. Tube drawing There are three processes for metallic pipe manufacture. Centrifugal casting of hot alloyed metal is one of the most prominent process. Seamless SMLS pipe is formed by drawing a solid billet over a piercing rod to create the hollow shell. As the manufacturing process does not include any welding, seamless pipes are perceived to be stronger and more reliable. Historically, seamless pipe was regarded as withstanding pressure better than other types, and was often more available than welded pipe. Advances since the s in materials, process control, and non-destructive testing, allow correctly specified welded pipe to replace seamless in many applications. The weld flash can be removed from both inner and outer surfaces using a scarfing blade. The weld zone can also be heat-treated to make the seam less visible. Welded pipe often have tighter dimensional tolerances than the seamless type, and can be cheaper to manufacture. There are a number of processes that may be used to produce ERW pipes. Each of these processes leads to coalescence or merging of steel components into pipes. Electric current is passed through the surfaces that have to be welded together; as the components being welded together resist the electric current, heat is generated which forms the weld. Pools of molten metal are formed where the two surfaces are connected as a strong electric current is passed through the metal; these pools of molten metal form the weld that binds the two abutted components. ERW pipes are manufactured from the longitudinal welding of steel. The welding process for ERW pipes is continuous, as opposed to welding of distinct sections at intervals. ERW process uses steel coil as feedstock. In this process, the current to weld the pipe is applied by means of an induction coil around the tube. There are two technologies that can be used to manufacture steel pipes of sizes larger than the steel pipes that can be produced by seamless and ERW processes. LSAW are made by bending and welding wide steel plates and most commonly used in oil and gas industry applications. Due to their high cost, LSAW pipes are seldom used in lower value non-energy applications such as water pipelines. SSAW pipes are produced by spiral helicoidal welding of steel coil and have a cost advantage over LSAW pipes, as the process uses coils rather than steel plates. Tubing for flow, either metal or plastic, is generally extruded. Historic water mains from Philadelphia included wooden pipes Pipe is made out of many types of material including ceramic , glass , fiberglass , many metals , concrete and plastic. Typically metallic piping is made of steel or iron, such as unfinished, black lacquer steel, carbon steel , stainless steel , galvanized steel , brass , and ductile iron. Iron based piping is subject to corrosion if used within a highly oxygenated water stream. Copper tubing is popular for domestic water potable plumbing systems; copper may be used where heat transfer is desirable i. Inconel , chrome moly , and titanium steel alloys are used in high temperature and pressure piping in process and power facilities. When specifying alloys for new processes, the known issues of creep and sensitization effect must be taken into account. Lead piping is still found in old domestic and other water distribution systems, but it is no longer permitted for new potable water piping installations due to its toxicity. According to a senior researcher and lead expert with the Canadian Environmental Law Association , " In many countries, PVC pipes account for most pipe materials used in buried municipal applications for drinking water distribution and wastewater mains. Pipes for sewage are still predominantly made from concrete or vitrified clay. Reinforced concrete can be used for large-diameter concrete pipes. This pipe material can be used in many types of construction, and is

often used in the gravity-flow transport of storm water. Usually such pipe will have a receiving bell or a stepped fitting, with various sealing methods applied at installation. These tests can be used to prove that the alloy conforms to various specifications. Maintaining the traceability between the alloy material and associated MTR is an important quality assurance issue. QA often requires the heat number to be written on the pipe. Precautions must also be taken to prevent the introduction of counterfeit materials. Nominal Pipe Size Pipe sizes can be confusing because the terminology may relate to historical dimensions. For example, a half-inch iron pipe does not have any dimension that is a half inch. Initially, a half inch pipe did have an inner diameter of 0. As technology improved, thinner walls became possible, but the outside diameter stayed the same so it could mate with existing older pipe, increasing the inner diameter beyond half an inch. The history of copper pipe is similar. The outside diameter was the important dimension for mating with fittings. There are two common methods for designating pipe outside diameter OD. Designating the outside diameter allows pipes of the same size to be fit together no matter what the wall thickness. The only way to obtain the actual OD is to look it up in a reference table. Since the outside diameter is fixed for a given pipe size, the inside diameter will vary depending on the wall thickness of the pipe. For example, 2" Schedule 80 pipe has thicker walls and therefore a smaller inside diameter than 2" Schedule 40 pipe. Steel pipe has been produced for about years. The pipe sizes that are in use today in PVC and galvanized were originally designed years ago for steel pipe. The number system, like Sch 40, 80, , were set long ago and seem a little odd. For example, Sch 20 pipe is even thinner than Sch 40, but same OD. And while these pipes are based on old steel pipe sizes, there is other pipe, like cpvc for heated water, that uses pipe sizes, inside and out, based on old copper pipe size standards instead of steel. Many different standards exist for pipe sizes, and their prevalence varies depending on industry and geographical area. The pipe size designation generally includes two numbers; one that indicates the outside OD or nominal diameter, and the other that indicates the wall thickness. In the early twentieth century, American pipe was sized by inside diameter. This practice was abandoned to improve compatibility with pipe fittings that must usually fit the OD of the pipe, but it has had a lasting impact on modern standards around the world. Typically the pipe wall thickness is the controlled variable, and the Inside Diameter I. The pipe wall thickness has a variance of approximately Japan has its own set of standard pipe sizes, often called JIS pipe. The Iron pipe size IPS is an older system still used by some manufacturers and legacy drawings and equipment. Copper plumbing tube for residential plumbing follows an entirely different size system in America, often called Copper Tube Size CTS ; see domestic water system. Its nominal size is neither the inside nor outside diameter. This code has the force of law in Canada and the US. Europe and the rest of the world has an equivalent system of codes. Pressure piping is generally pipe that must carry pressures greater than 10 to 25 atmospheres, although definitions vary. To ensure safe operation of the system, the manufacture, storage, welding, testing, etc. Manufacturing standards for pipes commonly require a test of chemical composition and a series of mechanical strength tests for each heat of pipe. A heat of pipe is all forged from the same cast ingot, and therefore had the same chemical composition. Mechanical tests may be associated to a lot of pipe, which would be all from the same heat and have been through the same heat treatment processes. The manufacturer performs these tests and reports the composition in a mill traceability report and the mechanical tests in a material test report, both of which are referred to by the acronym MTR. Material with these associated test reports is called traceable. For critical applications, third party verification of these tests may be required; in this case an independent lab will produce a certified material test report CMTR , and the material will be called certified. Some widely used pipe standards or piping classes are:

Chapter 4 : SonicWALL - Blocked by GeolP Filter.

There are 3 common types of plastic pipes are available in market, as given below. Unplasticized PVC (UPVC) or rigid pipes for use with cold water Plasticized PVC pipes which are plasticized with addition of rubber.

Waste and water disposal pipes
Copper Pipe Since the s, copper piping has been the standard for most home plumbing applications. The long lifespan and durability of this piping makes it an excellent choice for many applications. It tolerates heat well and is extremely resistant to corrosion. Copper does not degrade with water and therefore is safe for use with drinking water. However, copper has one major drawback, and that is the price. This is one of the most expensive piping materials, and is at a high risk of theft on jobsites or in vacant houses. Hot and cold drinking water supply Refrigerant lines for HVAC systems Other applications that require a tight seal Underground service lines
PEX Pipe PEX piping is considered by many to be one of the biggest innovations in the home plumbing industry of the modern era. PEX is an extremely flexible piping option that can literally be snaked through a home and bent around corners when needed. It requires no glue and holds up better in freezing conditions than CPVC because the materials can expand and contract. PEX is typically connected using stab-in or compression fittings, which require a special tool to use. PEX can be spliced into existing pipe, including copper pipe, which makes it a great choice for additions and retrofits. PEX is durable enough for hot water applications, but it cannot be connected directly to the hot water heater. For hot water supply lines, it must be connected to an inch section of copper or other hot-water-safe piping. Because of its flexibility and durability, PEX pipe is great for: Retrofitting an older home Snaking through walls in a remodel Working in areas with low ventilation where glue is dangerous
Galvanized Piping Galvanized piping is steel or iron piping that has been coated with zinc to help prevent rust and corrosion. Galvanized metal is commonly used in construction, but pipes made from galvanized steel can be used in plumbing applications. This particular type of pipe is best used for water lines, as gas lines can cause the zinc to corrode and damage the pipe or block the entire system. Even in highly corrosive conditions, galvanized pipes can last up to years. Galvanized pipes are typically used in the following applications: Water supply lines Underground applications
Brass Pipe Finally, brass piping is an option for certain applications. Highly resistant to corrosion as well as damage from heat and water, brass is also a soft metal that allows the installer to create a tight seal. It has a heavier wall than copper but offers many of the same benefits, including safety in use with drinking water. Lead is one potential problem with brass piping. Brass is an alloy, which means it is a mixture of metals, and many of the brass alloys contain lead. Brass is an older option that was commonly used before the introduction of copper to the home plumbing market, but it is still relevant today. Some applications of brass piping include: Water supply lines Water removal drains and lines Some applications for gas lines, depending on local building code As you can see, choosing the right piping material is not always easy. Before starting your plumbing job, make sure you do your research to ensure that the plumbing material you choose is the right fit. To purchase the piping and fittings you need at an excellent price, visit Commercial Industrial Supply today. Since CIS has pushed to bring the highest quality piping products to market.

Chapter 5 : Flange Types - calendrierdelascience.com

Perfectly differentiated the types of pipes used in water supply system. I want to change my pipe fittings and your post helped me a lot in selecting the best pipes at affordable prices. I purchased them from the leading online industrial goods megastore calendrierdelascience.com, you may feel free to visit them.

Cast Iron Pipes Cast iron pipes and fitting are primarily used for designing of soil and rain water disposal systems. These pipes are made by the sand cast process or by spinning. Sand cast pipes are made by pouring molten cast iron into vertically mounted sand moulds. They are available in 1. Spun pipes are made by pouring molten grey cast iron into a revolving water cooled mould, producing a seamless pipe in length upto 3 metre with thickness less than sand cast pipes. Plastic or PVC pipes There are 3 common types of plastic pipes are available in market, as given below. It has lower strength and lower working temperature than UPVC pipes. Chlorinated PVC CPVC pipes which can withstand higher temperatures upto used to carry hot water For pipes used in soil and waste water discharge systems, the thickness of the wall will be larger than that of used for roof drainage. Rigid PVC pipes are used for distribution of water with temperature below C. At higher temperature, the strength of the pipes decreases. Similarly ultraviolet radiation from sunlight as well as frequent changes in temperature reduces the life of PVC pipes. These pipes are costlier than AC pipes but cheaper than GI pipes. The galvanizing process deposits a thin coating of zinc which protects it from corrosion. They are available in light, medium and heavy grades depending on the thickness of the metal. For a 15 mm GI pipe, the thicknesses are 2. Generally the medium grade pipes are used for internal plumbing in building. These pipes corrode easily if it carries brackish water or concealed in lime concrete and brickwork or buried under the ground. These pipes are costlier than PVC pipes. Stoneware Pipes These pipes are available in the form of internal diameters 10 mm to mm with thickness varying from 12 mm to 43 mm. A good stoneware pipe should give a sharp clear tone when struck with a light hammer. These pipes are extensively used as underground drainage pipes in low cost construction buildings. Usually these pipes are laid on an even bed of concrete and further treated as specified for laying in different types of soils. However laying of these pipes requires experienced workmen and good supervisor. Therefore PVC pipes are being preferred to these pipes in many places. These pipes are cheap. Asbestos Cement AC Pipes These pipes are used for drainage of rainwater from roofs, soil and waste and also for ventilation. They come in two profiles " one with beading around socket WB and the other without beading around socket WOB. The latter type is more common than the former. The pipes come in lengths of 3 meters. The principal defects of these pipes are that they are heavy and they break easily. These pipes are cheaper than PVC pipes. Concrete Pipes Unreinforced pipes of small diameters as well as reinforced and prestressed concrete pipes of large diameters are available for water supply and other uses. Small unreinforced concrete pipes are very much used for drainage of rain water. Large diameter pipes are generally used for major water supply works.

Chapter 6 : Materials and Construction - Pipedia

Brass piping provides a long-lasting material that does not rust in the interior and it does not cause friction losses inside the pipe. Brass plumbing pipes are easier to thread than steel pipes and excellent for hot-water and large distribution systems, such as pump fittings, water tanks, and wells.

Tobacco pipes come in many shapes and styles. For an excellent overview of these shapes see Pipe Shapes by Bill Burney. Parts Nomenclature Bill Burney and A. Pipe Parts Charts showing the parts and nomenclature of the pipe: Pipe Parts Charts, by Bill Burney, Copyright used by permission; all rights reserved Page 1, Overview click image for full size view Page 2, Mechanics click image for full size view Page 3, Stems click image for full size view Page 4, Mortise Fit click image for full size view The basis for this section is from the Wikipedia entry Smoking Pipe tobacco. A Comprehensive list of Pipe maker material and suppliers can be found here: Briar is a particularly good wood for pipe making for a number of reasons. The first and most important is its natural resistance to fire. The second is its inherent ability to absorb moisture. The burl absorbs water in nature to supply the tree in the dry times and likewise will absorb the moisture that is a byproduct of combustion. Briar is cut from the root burl of the heath tree *Erica arborea*, which is native to the rocky and sandy soils of the Mediterranean region. Briar burls are cut into two types of blocks; ebauchon and plateaux. Ebauchon is taken from the heart of the burl while plateaux is taken from the outer part of the burl. While both types of blocks can produce pipes of the highest quality, most artisan pipe makers prefer to use plateaux because of its superior graining. Saint Claude Briar, c. A very early example from the time and place of the first briar pipes. Characteristics Of Briar is a very thorough and interesting research paper in. Kezos, I Fanariotou, E. Passialis documenting the various characteristics of briar. Also see Year Old Briar? Hamlin has also written an interesting article on this subject called The Briar Factor. This is a short but extremely informative article by Rainer Barbi available here: Alternative Woods Used For Pipe making Although briar pipes are by far the most popular, various other woods are also used by pipe makers one example would be cherry wood. See Alternative Woods Used For Pipe making for a list of the many wood types and examples of pipes made with these woods. Many thanks to pipe maker Elie for suggesting this section. It was used as early as the 17th century in Turkey in the production of various utilitarian articles, but the first use as a pipe was not earlier than, according to translated documents, about Along with clay, meerschaum represented the other common medium for pipes before the introduction of briar as the material of choice in the midth century. See Antique Meerschaum Pipes and Materiali Fossili, Schiuma di mare The word "meerschaum" means "sea foam" in German, alluding to its natural white color and its surprisingly low weight. Meerschaum is a very porous mineral that absorbs elements of the tobacco during the smoking process, and gradually changes color to a golden brown. Old, well-smoked meerschaum pipes are prized for their distinctive coloring. In selecting a meerschaum pipe it is advisable to determine if the pipe is indeed carved from a block of meerschaum, and is not made from meerschaum dust collected after carving and mixed with an emulsifier then pressed into a pipe shape. These products are not absorbent, do not color, and lack the smoking quality of the block carved pipe. It is not always obvious. Some collectors believe that some pipes marked "solid block meerschaum" may not be genuine. With no uniform grading authority, it is difficult to be sure in the case of an unknown maker, unless you are purchasing it from a trusted, well informed tobacconist. Be wary of inexpensive pipes from untrusted sources. Also look for the quality of the carving. Better carvers are unlikely to waste time carving composite meerschaum. This wood, however, has been preserved by being buried in peat bogs, sometimes for hundreds of years or more. It is also praised for a neutral taste caused by the removal of all tannins, resins and the like from the wood during its long period of submersion. Low-quality "clay" pipes are actually made from porcelain forming techniques known as slip, and poured into a mold. These are porous, of very low quality, and impart unwanted flavors to a smoke. Top-notch clays, on the other hand are made in a labor-intensive process that requires beating all air out of the clay, hand-rolling each pipe before molding it, piercing with a fine wire, and careful firing. Traditionally, clay pipes are unglazed. Clays burn "hot" in comparison to other types of pipes, so they are often difficult for most pipe-smokers to use. Their proponents claim that, unlike

other materials, a well-made clay pipe gives a "pure" smoke, with no flavor addition from the pipe bowl. In addition to aficionados, reproductions of historical clay styles are used by some Historical re-enactors. Clay pipes were once considered disposable items and the large quantities discarded in the past are often used as an aid in dating by industrial archaeologists. The illustration to the left is a 19th Cent. The seal represents two salamanders which legend tells us led residences to the gold deposits. Hammer and pick are also represented. These clays represent an entirely different clay pipe tradition from the English clay pipes. These shapes are based on Turkish clay pipes which entered Europe from the East. It retained very crisp definition in its cast and on applied details. The Bottgersteinzeug could be polished to a gloss before firing. Models were derived from Baroque silver shapes and Chinese ceramic examples. Because of this expense, pipes with bodies made of wood usually mahogany instead of gourd, but the same classic shape are sold as calabashes. Both wood and gourd pipes are functionally the same. They both have an air chamber beneath the bowl which serves to cool, dry, and mellow the smoke. There are also briar pipes being sold as calabashes. These typically do not have an air chamber and are named only because of their external shape. The construction of a calabash pipe generally consists of a downward curve that ends with an upcurve where the bowl sits. This low center of gravity allows for the user to easily hold the pipe by the mouth alone, leaving his hands free. This advantage was often used by actors who wanted to depict their character smoking while permitting them to do other business simultaneously. That is why the character Sherlock Holmes, who never used this kind of pipe in the stories, is stereotypically depicted as favoring it because early dramatic productions, especially those starring William Gillette and Basil Rathbone, made this artistic decision. In fact, Holmes, who preferred very harsh tobacco, would probably have disliked the calabash because of the above-mentioned mellowing effect. Every few days, after the fruit has begun to develop, the grower will bend the "neck" of the gourd, until it has formed into a near semi-circle. These are mainly grown in South Africa. Cucurbitaceae koo-ker-bih-TAY-see-ay ; Genus: Lagenaria lag-en-AR-ee-uh ; Species: Siceraria sy-ker-AR-ee-uh ; Cultivar: Also popular with some collectors are Calabash shaped briar pipes, or Calabash interpretations. Corncob Country Gentleman Bent, courtesy, Missouri Meerschaum Diplomat 5th Avenue Straight, courtesy, Missouri Meerschaum On the other end of the scale, "corncob" pipes made from maize cobs are cheap and effective, even if some regard them as inelegant. The cobs are first dried for two years. Then they are hollowed out to make a bowl shape. The bowls are dipped in a plaster-based mixture and varnished or lacquered on the outside. Shanks made from pine wood are then inserted into the bowls. The first and largest manufacturer of corncob pipes is Missouri Meerschaum , located in Washington, Missouri in the United States. Missouri Meerschaum has produced the pipes since General Douglas MacArthur and George Lincoln Rockwell were perhaps the most famous smokers of this type of pipe, along with the cartoon characters Popeye and Frosty the Snowman. Corncob pipes remain popular today because they are inexpensive and require no "break-in" period like briar pipes. For these two reasons, corncob pipes are often recommended as a "Beginners pipe. Corncob pipes are equally valued by both learners, and experienced smokers who simply desire a cool, clean smoke. Pipe smokers who wish to sample a wide variety of different tobaccos and blends also might keep a stock of corncobs on hand to permit them to try new flavors without "carryover" from an already-used pipe, or to keep a potentially bad tasting tobacco from adding its flavor to a more expensive or favored pipe. Worth An excellent website devoted to metal pipes: Grabow Viking and many others. Hunt and the Falcon Pipe, by K. Available from the author: Some say this can reduce the "Bite" and make smoking more enjoyable. Kirsten and Falcon pipes are still in production and deliver an excellent smoke. Beware though, there are many different metal pipes out there, of varying styles and brands, and collecting them can be very addictive. Eastman Pipe - By Eastman Scientific. Not sure how long these were in production, or any of the details with the exception of the flyer. If you have additional information, please click on the blue link and add the information into an article for us. Sweetheart - Looks similar to Kirsten, but is a separate company that was located in St. D In , Super-Temp Corporation began making plastic pipes with pyrolytic graphite bowl liners. They were called the pipe. In , Super-Temp contracted to market their unique pipes through Venturi, Inc. Colors and stripes began to be offered circa

Chapter 7 : Pipe (fluid conveyance) - Wikipedia

What are ASTM Grades? ASTM standards define the specific manufacturing process of the material and determine the exact chemical composition of pipes, fittings and flanges, through percentages of the permitted quantities of carbon, magnesium, nickel, etc., and are indicated by "Grade".

Cast Iron Pipes These pipes are most commonly used in water distribution system mainly because of the following reasons. They are cheaper in cost It has high resistance to corrosion It is highly durable C. Horizontally cast MC ware pipes Vertically cast pit cast in sand moulds Centrifugally cast in sand lines moulds spun type Centrifugally cast in water cooled metal moulds Now a days horizontally cast C. Centrifugally cast pipes possess fine grained dense structure and uniform thickness and therefore they are widely used. Special care has to be taken during transportation and making connection of these pipes, to prevent damage. Steel Pipes Use of steel pipes in water supply system is suggested when, pipes are subjected to very high pressure i. These pipes, however, require adequate preventive measure to sustain adverse atmospheric conditions. When steel pipes are encased in cement mortar or cement concrete, they are called Hume Steel pipes. These pipes are wrought steel pipes provided with zinc coating. They are available in light, medium and heavy grades depending on the thickness of the metal. For a 15 mm GI pipe, the thicknesses are 2. Generally the medium grade pipes are used for internal plumbing in building. Mostly screw and socket joints are used for G. Copper Pipes These pipes are used in hot water installation. They have high tensile strength and can therefore have thin walls and they can be bent easily. Copper pipes are sometimes coated with chromium to enhance its appearance. Plastic or Polythene or PVC Pipes These pipes are being used increasingly these days for supply of cold water in external and internal plumbing work. They are light in weight, non-corrosive, lower in cost and do not require any threading for connections. There are 3 common types of plastic pipes available in market, as given below. It has lower strength and lower working temperature than UPVC pipes. Chlorinated PVC CPVC pipes which can withstand higher temperatures upto used to carry hot water For pipes used in soil and waste water discharge systems, the thickness of the wall will be larger than that of used for roof drainage. Rigid PVC pipes are used for distribution of water with temperature below C. At higher temperature, the strength of the pipes decreases. Similarly ultraviolet radiation from sunlight as well as frequent changes in temperature reduces the life of PVC pipes. These pipes are costlier than AC pipes but cheaper than GI pipes. Asbestos Cement AC Pipes These pipes are used for drainage of rainwater from roofs, soil and waste and also for ventilation. They come in two profiles – one with beading around socket WB and the other without beading around socket WOB. The latter type is more common than the former. The pipes come in lengths of 3 meters. The principal defects of these pipes are that they are heavy and they break easily. These pipes are cheaper than PVC pipes. Concrete Pipes Unreinforced pipes of small diameters as well as reinforced and prestressed concrete pipes of large diameters are available for water supply and other uses. Small unreinforced concrete pipes are very much used for drainage of rain water. Large diameter pipes are generally used for major water supply works.

Chapter 8 : Copper Tube Handbook: I. Types of Copper Tube

4 Types of Pipe Material and the Associated Sewer Repair Issues The AAA AUGER team of plumbing contractors have been performing sewer service for over 50 years. From sewer cleaning to sewer pipe repair, we get the job done right the first time.

Chapter 9 : What Type of Plumbing Pipe is Best? | BFP Iowa

Residential plumbing pipes come in many varieties and types of metal and plastic pipes. Each pipe has their pros and cons and particular special usages in your home. In this post, we will examine different options for a large repiping project for your home.