

Read: Application dt. 03.05.2012 by M/s. K. K. Nag Ltd. holder of TIN 27210068848V.
Heard: Sh. R.G. Nahar [Chartered Accountant] and Sh. J. B. Joshi [Sales Tax Practitioner].

PROCEEDINGS

(under section 56 (1) (f) of the Maharashtra Value Added Tax Act, 2002)

No.DDQ/11-2012/Adm.6/17/B - 2

Mumbai, dt. 4/2/2016

The applicant M/s. K.K. Nag Ltd., seeks determination as to whether the full input tax credit can be available on the Feed Stock used for generation of steam used in Moulding process.

02. FACTS AND CONTENTION

The submission as made in the application is reproduced verbatim thus -

"Issue : Eligibility of set off on goods purchase & used as boiler feed stock for generation of steam (Steam is Raw Material for Finished goods).

- a. *Contain the name and Address of the applicant: K.K. Nag Ltd, Gat No.393, At & Post: Urse, Tal. Maval, Pune.*
- b. *Payment of fees: Rs.100/- paid on 30.04.12 Copy of challan is enclosed.*
- c. *We M/s. K. K. NAG LIMITED Gat No.393, At & Post: Urse, Tal. Maval, Dist: Pune are registered dealer having Registered no.27210068848V under the MVAT act 2002 and engaged in the business of manufacture & sale of Moulded Expanded polystyrene products for conveyance or packing of goods and Components in Air conditioners & Refrigerators as well as sheets which are used for insulation purpose.*
- d. *We understand that the full input tax credit is not available on fuel in the case of Feed Stock which are basic inputs for production and sale of goods which attract output tax as per the relevant schedule entry of the MVAT Act. In this regard, we submit that this application is preferred seeking clarification as regard to eligibility of set off (input tax credit) on Purchase of goods & used as Boiler Feed Stock such as Coal, Baggasse, Briquettes and Agro Waste. In this context we would like to know the related statutory provisions and notifications issued under MVAT Act 2002 as well as the relevant factual and legal aspects in the matter of eligibility of set off of the tax paid in respect of the commodities mentioned above. Our manufacturing process of manufacturing "Expansible Polystyrene Products" involves expanding the basic raw material which is "Expansible Polystyrene" by way of steaming and fusing which takes a desired shape and size in the moulds for such products. In order to fuse the basic raw material the process involves use of steam, water and pressure. The steam is used in the moulding process and the same is derived from the Boiler for which various Feed Stock such as Coal, Baggasse, Briquettes and Agro Waste are used. The moulding process is explained below: The raw material namely Expansible Polystyrene granuals are expanded in a prefoamer with the use of steam thereafter, cured and stored in silos for a certain period of time. As a result of this activity of manufacture, the granuals are expanded and such resulted Expanded Polystyrene is then fed into moulding machines and fused together, again with the help of steam as well as air pressure to take the shape of the mould on the moulding machine, after which the moulded products are dried in a drying chamber and sent to the finished goods warehouse for packing. A Manufacturing process chart for moulding process is enclosed. A flow chart for Boiler consumption of Feed Stock is also enclosed herewith for your information. We understand that the full input tax credit is not available in the case of Feed Stock which are basic inputs for production and sale of goods which attract output tax as per the relevant schedule entry of the MVAT Act 2002. Since The Feed Stocks such as Coal, Baggasse, Briquettes and Agro Waste are used as inputs like other raw material which is Expansible Polystyrene for manufacturing of our finished product namely "Expansible Polystyrene Product", we request clarification if the full input tax credit can be available on the Feed Stock used for generation of steam used in Moulding process.*

Boiler

- *The boiler plant is powered by fuel mainly wood and coal.*
- *Air is supplied to the boiler from a FD fan.*
- *As the boiler operates, water in the membrane panel gets heated up and is converted into steam and is converted into steam and transferred into the boiler shell where the feed water is supplied.*
- *The flue gas is transferred through tubes present in the shell. The tubes contain metal springs to retain*

the heat for a longer time.

- As the temperature of the flue gas raises above the specified limit the boiler shuts down.
- The water level in the shell is noted through a mobray system, which works on the principle of magnetic induction that will indicate if the water level goes down or raises up.
- The steam is produced in the shell and is sent into the accumulator through the Pressure Regulating System (PRV) and is stored there till it is utilized by the plant.
- The flue gas is sent to Water Pre Heater (WPH) where the incoming feed water is heated by the heat present in the flue gas.
- Water preheating is done because the feed water must have a favorable amount of heat before it is heated in the shell.
- The flue gas is sent into the Mechanical Dust Collector (MDC) where the heavy dust particles are removed.
- An ID fan sucks the gas from the furnace and sends it out through the chimney.
- In the path of the gas a flexible joint is present which expands when excess heat from flue gas is present and thus save the path from cracking.

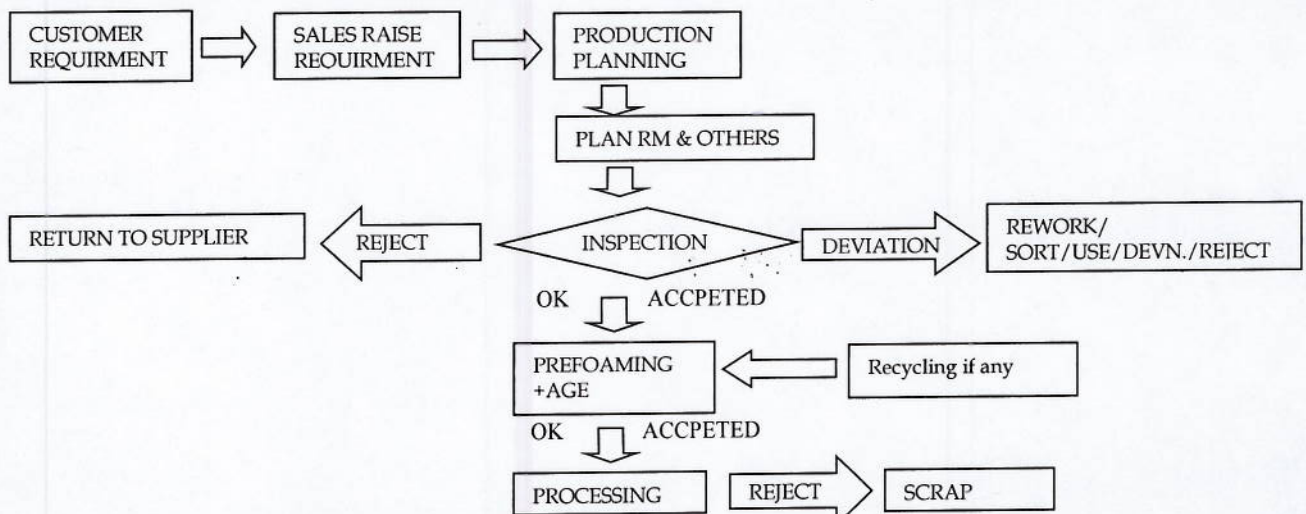
Prefoaming

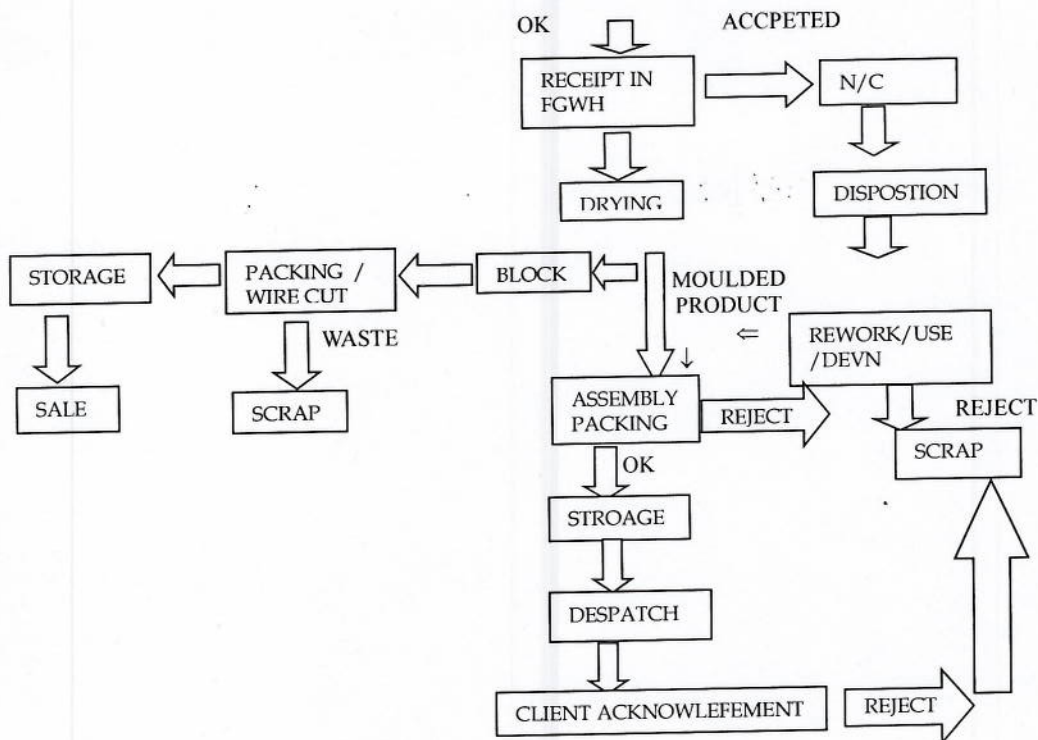
- Prefoaming is the process of decreasing the density of the polystyrene beads with the help of steam.
- These beads are spherical in shape and are hollow containing pentane gas.
- This pentane gas helps the beads to expand.
- About 6% of the beads contain pentane gas.
- During prefoaming 3% of the gas escapes and during storage the other 3% escapes.
- The percentage of dust particles in the raw material is calculated by sieve analysis.
- If the desired density is obtained of the initial run of the prefoaming it is called I Pass material. If the prefoamed beads had to be prefoamed again to further reduce the density it is called II Pass material.

Moulding Process

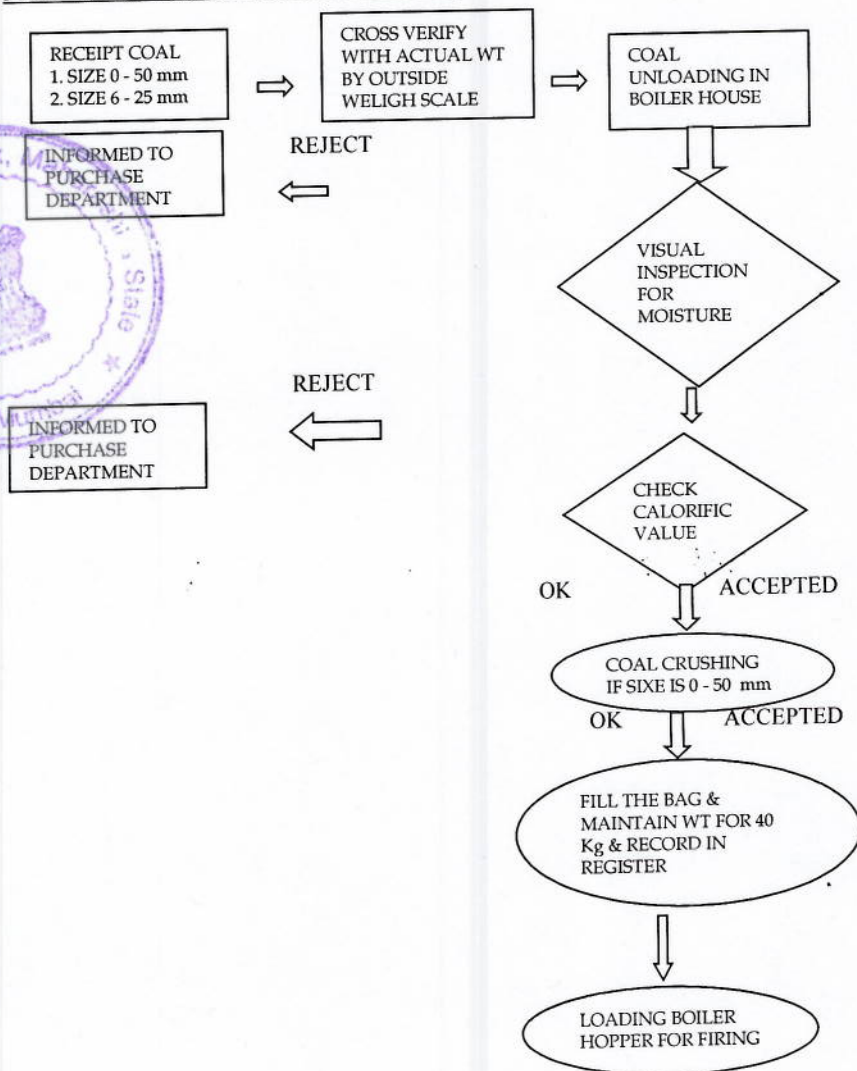
- Before a product is molded its EPS grade and density is decided.
 - The specified beads are filled into the machine silo.
- The core is called M-I and the cavity is called M-II
- The process that takes place on the machine are as follows:
1. Close fast motion (up to a certain distance to reduce cycle time)
 2. Close slow motion up to gap (to avoid dashing of M-I & M-II)
 3. Preblow
 4. Filling
 5. Backblow
 6. Full mould close
 7. Cross steam M-I
 8. Cross steam M-II
 9. Steam Autoclave
 10. Cooling from M-I & M-II
 11. Draining
 12. Open at AZA
 13. Close at AZA (step AZA occurs only to eject products with a complex design)
 14. Mould open"

FLOW CHART EPS MANUFACTURING PROCESS





FLOW CHART FOR BOILER CONSUMPTION



03. HEARING

Sh. R.G. Nahar [Chartered Accountant] and Shri J. B. Joshi [Sales Tax Practitioner] attended along with technical persons from the company. It was submitted thus :

- The contention as stated in the application is reiterated.
- The raw material, intermediate goods and the final product is given to be kept on record.
- It is submitted that the steam is an essential and integral part of the product and without which the product cannot be manufactured. In that sense, steam is a raw material of the dealer. Since steam cannot be procured from the market, it is required to be generated by the dealer by the use of boilers. And to create the same in the boilers, dealer requires fuel in the form of coal, bagasse, wood, etc. depending on availability. So it is contended that the fuel in the form of coal, bagasse, wood etc. is raw material.
- Since the applicant has not provided the purchase bills in respect of which full set off is claimed in the application instead of retention, they are asked to provide the same.
- It was submitted that till today, the applicant has been claiming set off after retention.

04. OBSERVATIONS

I have gone through the facts of the case. The issue pertains to claim of set-off and the quantum thereof. To address the issue, I would first enlist the relevant rules as are available under the Maharashtra Value Added Tax Rules,2005 (MVAT Rules,2005) with regard to the claim of set-off :

52	Claim and grant of set-off in respect of purchases made in the periods commencing on or after the appointed day
53	Reduction in set-off
54	Non-admissibility of set-off
55	Condition for grant of set-off or refund and adjustment of draw-back, set-off in certain circumstances

The above TABLE helps us to know that the MVAT Rules provide a scheme for the grant, reduction and non-admissibility of set-off while at the same time prescribing the conditions subject to which a set-off is to be granted. Rule 52 of the MVAT Rules,2005 pertains to the claim and grant of set off in respect of purchases whereas Rule 53 provides for retention from the amount of set-off available in respect of a purchase. Thus, as per the scheme of the MVAT Act,2002, set-off is available subject to certain conditions and restrictions as provided. The present proceedings are concerned with the provision for retention of set-off in respect of purchases of fuels as appearing in rule 53(1) of the MVAT Rules,2005. The same reads thus -

53. Reduction in set-off.

The set-off available under any rule shall be reduced and shall accordingly be disallowed in part or full in the event of any of the contingencies specified below and to the extent specified.

- (1) *If the claimant dealer has used any taxable goods as fuel, then an amount equal to three per cent of the corresponding purchase price shall be reduced from the amount of set-off otherwise available in respect of the said purchase.*

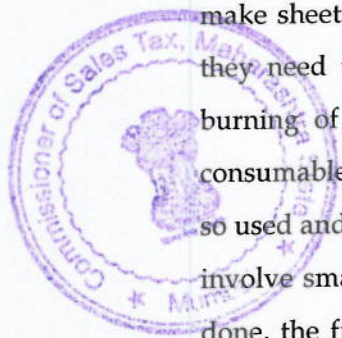
As can be seen the provision is very clear that if taxable goods are used as fuel, then a retention at the rate of 3% of the corresponding purchase price would be made from the amount of set-off otherwise available in respect of the said purchase. The rule makes it clear that the goods should be fuels and the fuels should be taxable. In the present case, the applicant has informed the facts thus :

- a. *The manufacturing is of "Expansible Polystyrene Products" which involves expanding the basic raw material which is "Expansible Polystyrene" by way of steaming and fusing which takes a desired shape and size in the moulds for such products.*
- b. *In order to fuse the basic raw material, the process involves use of steam, water and pressure.*
- c. *The steam is used in the moulding process and the same is derived from the Boiler for which various Feed Stock such as Coal, Baggasse, Briquettes and Agro Waste are used.*
- d. *The moulding process is explained below :
The raw material namely Expansible Polystyrene granules are expanded in a prefoamer with the use of steam thereafter, cured and stored in silos for a certain period of time. As a result of this activity of manufacture, the granules are expanded and such resulted Expanded Polystyrene is then fed into moulding machines and fused together, again with the help of steam as well as air pressure to take the shape of the mould on the moulding machine, after which the moulded products are dried in a drying chamber and sent to the finished goods warehouse for packing.*

However, the applicant contends that the products such as Coal, Baggasse, Briquettes and Agro Waste are used as inputs like the raw material Expansible Polystyrene for manufacturing of the finished product namely "Expansible Polystyrene Product". It is submitted that the steam is an essential and integral part of the product and without which the product cannot be manufactured. In that sense, steam is a raw material of the dealer. Since steam cannot be procured from the market, it is required to be generated by the dealer by the use of boilers. And to create the same in the boilers, dealer requires fuel in the form of coal, bagasse, wood, etc. depending on availability. Thus, the crux of the contention is that the fuel in the form of coal, bagasse, wood etc. is raw material. Before, I proceed to deal with the arguments, it should be noted that the applicant themselves have mentioned that fuel in the form of coal, bagasse, wood etc. is raw material. While using the words 'raw material' as well as 'fuel' separately, it is still maintained that 'fuel' is 'raw material'. Nevertheless, I would ascertain the claims thus -

For manufacturing any product, certain products in pre-decided proportions are used. There is a manufacturing process which involves various stages. The process moves from various stages of intermediate to semi-finished to finished state. The initial stage would be the assembling of the products which go into the making of the final product. If there are more than one such products which are to be used to manufacture the final product or even if there is a single product which is to be used, then also there would be needed some activity to blend or mix the products in the desired proportions. The consistency and state of such products in terms of solid, liquid, viscosity, cohesion, etc. would decide the process which they would be put to and also the call as regards whether any other ingredients are needed to be added. It is in this regard that one is familiar with various terminologies such as raw materials, fuels, consumables, intermediate goods, finished goods, etc. Each of the terms have distinct and defined connotations. A fuel is understood to mean materials of the kind that are used to provide heat or power, usually by being burned. A raw material is commonly understood to mean the basic materials from which the final product is manufactured. Both the words are not synonymous and are not interchangeably used. In the instant case before me, the raw material is the

"Expansible Polystyrene" and the materials coal, baggasse, briquettes and agro waste, as admitted by the applicant, are used as fuel to generate the steam. These materials are commonly known as fuels. However, the applicant claims that the impugned items of fuel are raw materials in view of the use thereof in the manufacturing process. The use of the steam in the manufacturing process carried on by the applicant is by way of steaming and fusing the "Expansible Polystyrene" which takes a desired shape and size in the moulds. Now, the provision is clear enough and it refers to use of taxable products as fuels. Therefore, if fuels are used then if they are items falling in the taxable bracket, a retention in set-off applies. I find no dispute or ambiguity in the interpretation of the provisions. If it is a fuel then retention applies is the rule. To term fuels as raw materials is to club two terminologies. Use of fuel is an integral part of most manufacturing activities. Since steam is used to fuse or enlarge the raw material, it doesn't mean that the steam and the products use to form the steam would be termed as 'raw materials'. The use of steam is a part of the manufacturing process. Many manufacturing activities make use of steam or for that matter some source to enlarge or process the basic ingredients. Since the item involved is steam, I find a simple example for this would be of the roti or chapatti (Indian bread) that we consume. Flour, be it rice or wheat or of other multi-grains, is used to make the roti. The flour being of powdery nature, it needs a stage whereby it could be put into such state where rotis could be rolled out therefrom. Here comes the need to add water so as to mix and blend the flour in a uniform consistency so as to make a dough. Small balls are made from this dough which are rolled on to make sheets of circular shapes. The circular shapes so rolled out would not be consumable so they need to be roasted. The roasting would involve the use of heat which comes through burning of gas or coal. In this example unless the heat is applied, the roti would not be consumable as it then would be a mere flat shape of thick wet flour. Does that mean that the heat so used and the stove and the gas so used would be called raw materials? Various purees or jams involve smashing of the ingredients with the help of some machine. Unless the said activity is done, the final product would never come into existence. Here again does that mean that the cutters and blenders and the power source used to run the machines are the raw materials? In these examples too, the final products would not come into existence without the use of the fuels or the machinery used by the processes in the same way as claimed by the applicant in the present case that without the steam the final product would not come into existence. Steam is used in various activities. The internet throws up a variety of uses of steam. Applying the applicant's logic even the moulds used to give the definite shape would be the raw materials. Such are not the considerations to categorize raw materials and fuels. Then we see that various food items also involve the use of steam. Idli, the breakfast food in most households and hotels comes onto our plate by use of the steam. If not for the steam, the Idli would be a mere batter of flour made from ground grains or soaked grains that are ground. Does that mean that when passing recipes, steam is mentioned as the raw materials? It is because of the steam that the



batter grows fluffy and firm. That doesn't mean that steam is integral to the food preparation, Idli. Steaming is a part of the manufacturing process. The use of steam in the present case is also in the course of the manufacturing activity. As mentioned earlier, any manufacturing process begins with a definite set of materials which are put through various processes. These processes make use of machines and materials. The machines in turn make use of products to run them. These incidental products and processes can by no certain means be referred as 'raw materials'. Doing so would bring into existence a different set of terminology which would complicate the correlation between processes and products.

If we look at the industry treatment in cases using the impugned materials and processes then it is seen thus -

www.bpf.co.uk

Unlike other thermoplastic processes, the production of EPS products requires that the raw materials be pre-conditioned prior to their final "tooled" moulding process.

The raw material (also known as "expandable polystyrene" or "bead") as one has a spherical shape and is similar to sugar in appearance.

The conversion process is carried out in three stages:

Pre-expansion

The tiny spherical polystyrene beads are expanded to about 40 times their original size using a small quantity of pentane (typically 5% by weight) as a blowing agent. This process involves the heating of beads, using a flow of steam, which causes the blowing agent to boil and thus a honeycomb of closed cells is formed.

Maturing

As the material cools the pentane liquefies and a partial vacuum is formed inside the bead. The beads are returned to a holding tank for approximately twelve hours to allow the pressure differential to equalize, giving a stabilised granule.

Final Forming

In this final stage the pre-expanded stabilized beads are reheated with steam in a mould. The final expansion takes place and the beads coalesce to give a shaped moulding. This can also be used to form large blocks which can be sectioned to the required shape as panels, boards, cylinders etc. In this final form the EPS is made up of 98% air.

The Machines and Tools

The components are formed in aluminium mould tools. These are generally of male and female form, with the shape between the two halves of the mould being the shape, being produced. The mould tool is fitted into a press, which has the facility to introduce steam from behind each half of the tool. The steam is introduced through small slotted vents, which have been machined into the mould tool when it was manufactured.

www.achfoam.com

Expanded Polystyrene (EPS) is a thermoplastic, closed-cell, lightweight, rigid-foam plastic. The low thermal conductivity, high compressive, strength and excellent shock absorption properties of EPS make it an ideal material for the application demand for which it is used.

EPS Manufacturing Process

1. Pre Expansion & Aging
2. Curing
3. Molding Process
4. Shape Molding
5. Fabrication

Pre-Expansion and Aging

The raw material resin used to manufacture EPS is received in the form of small beads ranging from 0.5 to 1.3mm in diameter. These small beads are formulated and manufactured by the suppliers to contain a small percentage of the naturally occurring gas pentane. This gas is impregnated throughout the body of each small bead. The pre-expansion phase of manufacturing is simply the swelling of the small bead to almost 50 times its original size through the heating and rapid release of the gas from the bead during its glass transition phase. ACH Foam Technologies uses very sophisticated technology and equipment in its pre-expansion processes. By utilizing a computer-controlled weighing system, a measured amount of beads are introduced into the expansion equipment. Steam is introduced into the vessel and an agitator mixes the expanding beads as the heat in the steam causes the pentane to be released from the beads. A level indicator tells the computer when the desired specified volume has been reached. After a pressure equalization phase, the expanded beads are released into a bed dryer and all condensed steam moisture is dried from the surface. The pre-expansion is complete and another cycle is ready to run. This process takes approximately 200 seconds to finish.

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After the expanded beads have been dried, they are blown into large open storage bags for the aging process. The beads have been under a dynamic physical transformation that has left them with an internal vacuum in the millions of cells created. This vacuum must be equalized to atmospheric pressure, otherwise this delicate balance may result in the collapse or implosion of the bead. This process of aging the expanded beads allows them to fill back up with air and equalize. This aging can take from 12 hours to 48 hours, depending on the desired expanded density of the bead. After the aging is finished, the beads are ready for molding into blocks. ACH Foam Technologies' high-tech molding equipment goes one step further after the pressure is released by submitting the newly formed block to a partial vacuum which allows for a faster cooling period. This added step pulls residual moisture from the block resulting in a drier, better-fused block of EPS. The block is ejected from the mold and another cycle is ready to run.

Curing

Heat curing is the next step of our process. This not only accelerates the curing process of the freshly molded blocks, but also assures that the material is dimensionally stable and provides a completely dry material for the best fabrication results. We have developed unique heat rooms for this purpose, which are designed for efficient inventory transitions. This is one of the reasons we feel we are able to offer the highest level of service and shortest response time possible, even during the busiest times of the construction season.

Molding Process

The molding process involves taking the loose expanded beads and forming them into a solid mass. ACH Foam Technologies' shape & block molded products are formed using a state-of-the-art vacuum-assisted mold. By utilizing a system of load cells, the computer is capable of controlling the exact weight of beads introduced into the mold cavity. Once the cavity is filled, the computer uses a vacuum system to evacuate residual air from it. The vacuum is relieved by live steam, which flows over the entire mass of beads in the cavity. This vacuum-rinsing process softens the polymer structure of the bead surface and is immediately followed by the pressurization of the mold cavity with more live steam. The latent heat from the steam and subsequent pressure increase cause the beads to further expand. Since this is a confined environment, the only way the beads can expand is to fill up any voids between them causing the soft surfaces to fuse together into a polyhedral-type solid structure. The computer releases the pressure after it reaches its predetermined set point. The loose beads are now fused into a solid mass.

Shape Molding

The shape molding process is essentially the same as block molding except that the product is molded into its specific final shape using a custom mold rather than a large 16' x 4' x 36" block mold in which the EPS block requires additional trimming and cutting to reach its intended size & shape. Shape molded products are typically used for packaging, insulated concrete forms, lost foam foundry patterns and OEM products.

Fabrication

EPS quality-molded blocks are used for many applications, most of which require the blocks to be trimmed and cut to a desired dimension. ACH Foam Technologies utilizes a series of thermal hot-wire cutting tools to accomplish a smooth surface while still maintaining strict quality control dimensional tolerances. These tools heat the wires electrically and their resistance characteristics cause them to reach heat levels from 400° F to 800° F. The wires are drawn down through the block to achieve the length and width cuts and then the blocks are pushed through the hot wires via a conveyor to achieve the desired thickness.

epsa.org.au

What is EPS?

Expanded Polystyrene (EPS) is a **lightweight cellular plastic material consisting of small hollow spherical balls**. It is this closed cellular construction that gives EPS its remarkable characteristics.

EPS is manufactured from styrene monomer; low levels of styrene occur naturally in many plants, fruit, vegetables, nuts and meat. EPS is a derivative of ethylene and benzene and is made using a polymerisation process which produces translucent spherical beads of polystyrene, about the size of sugar granules. During this process a low boiling point hydrocarbon, usually pentane gas, is added to the material to assist expansion during subsequent processing.

EPS is produced in a three stage process:

Pre-expansion

Upon contact with steam the pre-foaming agent found within the polystyrene beads (usually a hydrocarbon such as pentane) starts to boil and the beads are expanded to between 40 to 50 times their original volume.

Conditioning

After expansion the beads undergo a maturing period in order to reach an equilibrium temperature and pressure.

Moulding

The beads are placed within a mould and again reheated with steam. The pre-foamed beads expand further, completely fill the mould cavity and fuse together. The beads are moulded to form blocks or customised products. When moulded, nearly all the volume of the EPS (~98%) is air.

There are two moulding processes for EPS.

- Block moulding produces large blocks of EPS which can then be cut into shapes or sheets for use in both packaging and building/construction applications.
- Shape moulding produces parts which have custom designed specifications. Electronic product packaging in particular is where shape moulded EPS is used extensively.

The sample of the raw material was shown to me and it fits the description of spherical

sugar shape. From the above descriptions, one can see that the processes regard the EPS as the raw material and the steam used for expansion and fusing is not treated as a raw material but as a step in the manufacturing process to achieve the final product.

The long and short of it is that fuels would be fuels and raw materials would be raw materials. The impugned rule makes use of the word 'fuels' and the same is to be understood in that sense only. By the strict sense of the word used in the impugned sub-rule (1) of rule 53, the products coal, baggasse, briquettes and agro waste are used as 'fuels' and not as 'raw materials'. Without going into any further discussion on the issue, I am of the opinion that the impugned sub-rule (1) would apply to the purchases of coal, baggasse, briquettes and agro waste as they are used as fuel and thereby, there would be retention @3%. It, therefore, need to be observed that the applicant has been rightly claiming set-off after retention, and not full set-off, on the purchases of the impugned products.

05. In view of the deliberations, it is determined thus -

ORDER

(under section 56 (1) (f) of the Maharashtra Value Added Tax Act, 2002)

No.DDQ/11-2012/Adm.6/17/B - 2

Mumbai, dt. 4/2/2016



- It is herewith determined that full input tax credit would not be available on the purchases of coal, baggasse, briquettes and agro waste used for generation of steam used in the Moulding process.
- The impugned purchases are used as fuel and therefore, the provisions of sub-rule (1) of rule 53 would apply. Accordingly, there would be retention @3% of the corresponding purchase price and such amount would be reduced from the amount of set-off otherwise available in respect of the said purchase.


(RAJIV JALOTA)

COMMISSIONER OF SALES TAX,
MAHARASHTRA STATE, MUMBAI