DESCRIPTION OF PRODUCTION PROCESSES

Although there are several types of processes in Industrias Serva depending on the type of sealing gasket to be manufactured, the manufacturing process of cylinder head gaskets includes all stages concerning the rest of gaskets (light gaskets, metal gaskets,...) . Therefore, we are giving a brief description of the same as follows:

1) ***Steel punching***: As a basic component of the cylinder head gasket, the steel in coils is punched by means of a stamp.
2) ***Sandwich assembly*** :The punched steel coil and two coils of aramide fiber are assembled sandwich-like, so that the punched plate is between two fiber plates.
3) ***Calendering*** : The above sandwich goes through a calendering line, in order to get a definite thickness depending on the gasket to be manufactured. The outcome of this process can be a coil of material or formats of several sizes.
4) ***Cutting/stamping***: The coil or the formats are cut according to the geometrical profile of the part with the corresponding tool: stamp or die.

5) ***Gasket pressing***: The gaskets are pressed to get a definite thickness.
6) ***Assembly and riveting of reinforcements***: As an auxiliary process, some plates of different types of steel are cut and drawn to shape the metal reinforcements, which are assembled and riveted in the cylinder area.
7) ***Pressing of reinforcements***: Like the gaskets, the reinforcements are pressed in order to get a definite over-thickness.
8) ***Assembly and riveting of rings***: Other auxiliary pieces that may be included in the cylinder head gasket are the rings, which are cut and drawn like the reinforcements. The rings are assembled and riveted around the holes for lubricating fluids (oils).
9) ***Impregnation***: The mission of a gasket is to ensure the correct sealing of the part. This is achieved by sinking the material into a silicone bath that fills the pores of the fiber material.
10) ***Curing in static oven***: The gaskets are cured at high temperatures with the resulting emission of hydrocarbons to ensure the correct application of the impregnating compound.

11) ***Silk-screen printing***: Once the gaskets are cured, they receive a surface silicone beading to get the best sealing. The cleaning of the used tools should be considered as an auxiliary process to this stage.

12) ***Curing in dynamic oven***: Lastly, and as the final stage of the manufacturing process, the cylinder head gaskets are cured again in dynamic ovens.
13) ***Labeling and packing***: Once the final product has been manufactured, this goes through the packing lines. The package includes a cardboard support and a polystyrene or PVC cover.

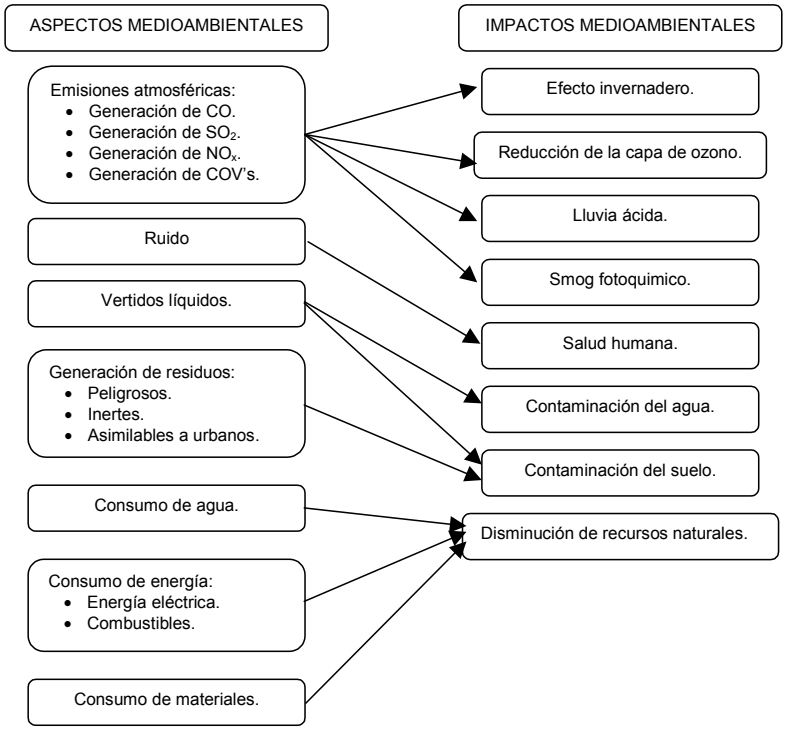
In regard to the manufacturing process of thermal shields, this is as follows:

1) ***Stamping***: The steel and the fiber are stamped with the appropriate profile according to the part to be manufactured.
2) ***Assembly and riveting of the parts***: The steel plates and the fiber plate are riveted sandwich-like.
3) ***Sandwich shaping***: Lastly, the three plates are shaped by bending and the necessary rings are added.

There is a third type of manufacturing process for the production of oil seals and molded rubber gaskets. In this process, a band of synthetic rubber goes through a rubber press where it is ground. Then it is subjected to high temperatures and becomes a semi-fluid . Then it is injected into a mold in which the part is shaped for a definite time and at a definite temperature, in order to be cured. Then the parts are taken out from the mold and trimmed . Lastly, they are post-cured in a static oven.

ENVIRONMENTAL ISSUES

The different environmental issues generated by the activities and products of Dana Automoción, S.A. – Industrias Serva, may be grouped according to their features in the following areas. The chart below shows the relationship between these issues and the impact generated by them.



The criteria for the assessment of these environmental issues are available to the public on a free- upon-request basis.

Air emissions

Emission points are those pipes and outlets to the outside that carry and throw out to the air the gases and vapors generated in the Plant. The generated air pollution is mainly due to the combustion gases (CO2, NOx,...) from the combustion boilers (heating and sanitary hot water) and to volatile organic compounds (VOC's), specially hydrocarbons generated in the curing ovens and during the cleaning of silk screens. Both combustion gases and VOC's contribute to the greenhouse effect. Furthermore, particles from an evacuation point for gases resulting from the laser cut procedure of metallic materials are thrown out to the air.

Dana Automoción, S.A. – Industrias Serva has twelve points of emission, all of them are controlled and measured on an annual basis by an authorized organization.

Sewage

In Dana Automoción, S.A. – Industrias Serva there are four points of treatment of sewage generated by the following activities:

- ***Sewage resulting from the cleaning of rolls and emulsion of silk screens***: It is purified through a physical-chemical treatment based on the precipitation of paint and emulsion remains by means of a flocculation agent. The water drained to the sewage system is free of noxious substances.
- ***Sewage coming from compressor purges***: A mixture of water and lubricating oil generated in the compressors that supply compressed air to the Plant machinery and that circulates through a water/oil separator.
- ***Sewage coming from the purges of the pump of the water jet cutting machine***: A mixture of water and oil generated from leaks in the equipment, that goes through a water/oil separator.
- ***Sewage from the rinsing of molds***: It comes from the cleaning of molds for rubber injection, which includes three tubs: degreasing (closed), rinsing (re-circulation) and passivate (closed). The rinsing

water is re-circulated after going through a series of filters that keep the solids and fats that the water may contain. The OCD (Oxygen Chemical Demand) and the alkalinity are corrected through active carbon filters and the controlled injection of CO2 respectively. The excess water generated is drained to the sewage system after going through a second filter of active carbon, to prevent eventual overflowing in the rinsing tub.

In all cases the sewage is drained to the internal system of the Plant after its treatment and from here it goes to the sewage system of the industrial estate.

Noise

The main noise generating points are the machines in the Production and Packing departments and in the Auxiliary Services (air conditioning, etc). Considering the features of the production processes (see paragraph 1.2) the level of internal noise in dB(A) in the Plant is not homogeneous. Therefore, annual measurements of max level of internal noise are carried out by an external Service of Prevention, according to the Royal Decree 1316/1989, of 27th October, concerning "Protections of workers against the risks resulting from exposure to noise during the work". Furthermore, measurements of levels of emission of external noise are carried out on a two-year basis by a Control Organization authorized by the Administration, according to the Local Regulations of Environment about Protection against Noises and Vibrations of Saragossa.

In order to reduce the level of noise, we have been progressively implementing a series of corrective and preventive actions focused on the replacement and removal of machinery and on the realization of activities of preventive maintenance.

It must be taken into account that the effect of external noise rates is very low, as the external emission points (auxiliary service equipment) are concealed by the strong noise coming from the traffic on the A-2 Motorway that runs nearby.

Waste

The waste generated in Dana Automoción, S.A. – Industrias Serva is always treated in compliance with the applicable regulations in force and under consideration of their possibilities of minimization and re-cycling , in order to reduce the environmental impacts associated to its removal and to the space in the dump.

Dana Automoción, S.A. – Industrias Serva has the necessary infrastructure for the temporary storage of dangerous waste (DW), which complies with all regulations concerning control and temporary storage of DW in industrial premises and which has all necessary permits. The removal of this waste is always carried out by an authorized agent.

Another type of waste generated in the daily activity of the Plant allows its external re-cycling. Therefore, it is separated in different containers according to its type (metals, paper and cardboard, wood,...) and it is regularly collected by authorized organizations. Inert and urban-like waste is removed by the authorized agent and carried to the local dump.

External resources

Other environmental issues related to the use of resources include:

- ***Water consumption***: the consumed water comes from the public network of supply. About two thirds are for sanitary use and the remaining one third for industrial use and for the auxiliary equipment: anti-fire tanks and evaporative agents. The industrial use is focused on the cleaning of manufacturing tools used in the silk-screen printing process and rubber injection, as well as in the water jet cutting machine.
- ***Power consumption***: The power sources used include electricity and diesel oil, the latter used as fuel for the heating boilers only. Power consumption covers machinery and lighting requirements
- ***Material consumption***: The raw materials used are many, due to the huge amount of items available in the catalogue of Dana Automoción, S.A. – Industrias Serva (about 80 000), but the use of different types of steel should be highlighted.

Indirect environmental issues

These include those activities, products and services of the Company for which Dana Automoción, S.A. – Industrias Serva has not the full control of their management and that may generate significant environmental impacts. The following ones have been identified:

- ***Environmental behavior of suppliers and sub-contractors***: They refer to the number of suppliers with environmental management systems already implemented or in the process of being implemented, and to the environmental impact that the actions of the companies subcontracted by Dana Automoción, S.A. – Industrias Serva may originate in their facilities.
- ***Packages***: In regard to customer's requirements concerning definition of packing features, the commercial distribution demands some conditions that may have influence on the packing material and the habits of the final users.
- ***Design and development of product composition***: Since the product is intended for the Aftermaket, the features of design, as far as size is concerned, are established by the original manufacturer of the vehicles. It is possible to minimize the environmental issues associated to the materials used in the product through the selection of the same. The improvement of the physical properties and chemical composition of these materials allows to minimize the environmental impacts associated to the operations of waste management at the end of the life of the product.

Others

Other environmental issues related to the facilities of Dana Automoción, S.A. – Industrias Serva that may have some effects on the environment include:

- ***Underground tanks for the storage of diesel oil***: there are two underground tanks of 20 000 and 10 000 liters , in which diesel oil C is stored for the supply to heating and sanitary hot water boilers of both plants. The tanks have the necessary permits.
- ***Warehouses of chemicals and dangerous waste, both flammable and non-flammable***: Dana Automoción, S.A. – Industrias Serva has two plants specifically devoted to the storage of chemicals and dangerous waste, both flammable and non-flammable, equipped with the necessary preventive measures (retention tubs and container, fire extinguishers, anti-deflagration equipment,...) to prevent and/or reduce the eventual risks resulting from their storage and handling. Both facilities have the necessary permits.