

03rd April, 2019

To,
The Manager- Listing Department
National Stock Exchange of India Limited
Exchange Plaza, Plot No. C/1,
G-Block, Bandra- Kurla Complex,
Bandra (E) Mumbai 400 051, India

Subject: Media Coverage about the Company in Automotive Script Magazine

Ref: Series SM & Symbol: SINTERCOM

Dear Sir/ Madam,

This is to inform you that Automotive Script magazine has published an article about our Company and its business in their March, 2019 edition. Please find enclosed herewith scanned copy of the Media coverage.

Thanking you

Yours faithfully

**CERTIFIED TRUE COPY
For Sintercom India Limited**


Anuja Joshi -
Company Secretary & Compliance Officer
A32971



Encl: As above

automotive

SCRIPT

SCRIPTING THE EVOLUTION OF AUTOMOTIVE INDUSTRY

VOL 2 ISSUE 4 / MARCH 2019 / ₹100

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SINTERCOM

Upbringing Sintering
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ARAI

WORKING TOWARDS
A CLEANER FUTURE

MRS. RASHMI URDHWARSHE,
DIRECTOR, AUTOMOTIVE
RESEARCH ASSOCIATION OF INDIA

HONDA LAUNCHES ALL NEW 2019 CIVIC

The growth in demand of sintered components globally

Chinmay Chaudhary

Sintercom India Ltd.

Sintercom India Ltd. based out of Pune, is one of the leading automotive sintered components manufacturer located in Pune, India. The company specializes in manufacturing medium to high density sintered components for automotive engine, powertrain, exhaust systems as well as sensor components. The product portfolio includes drivetrain gears, engine sprockets, pulleys, crankshaft bearing journals, transmission gears, synchro hubs, as well as ABS rings, sensor hego bosses and flanges.

Sintercom provides its esteemed customers with the value proposition of high volume, high precision and low cost components that are quoted to be tailored to their specific requirements. This is ensured by leveraging their integrated manufacturing facility adhering to rigorous quality standards which is equally supported by the company's dedicated engineering and development centre, and in-house well-equipped quality lab.

SINTERING PROCESS

Sintering process is the process of fusing loose powder particles in the green components using controlled heating and cooling inside a furnace. There are various steps involved in sintering of green components. First, the binding agents are burned

off in the atmospheric chamber. This is required for metallic bond formation at later stages. Second, the components are heated to high temperatures in phase-wise manner, in an inert reducing environment chamber. At this stage, all metallic particles bond together in the process called sintering. In the last stage, components are slowly cooled to near room temperature and the component is said to be at brown stage.

Alternatively, rapid cooling stage is added at the end of heating stage. By faster cooling of components using liquid nitrogen jets, martensite or hardened structure is created. This process of rapid cooling after heating increases strength of components.

Normally, as it has been seen, most of the application do not require components with full density. The components with medium to high density suffice to meet the requirements of the applications. Here, sintering plays a major role as it can decide on the powder composition so to manufacture the component as per the desired strength and density to meet the requirements of the application.

Sintering technology, there are four different processes under the sintering umbrella which are classified as

conventional sintering, isostatic sintering, metal injection moulding and additive manufacturing. Sintering as a technology has developed this process based on the application of the product and based on the industry.

To give a quick understanding between conventional sintering and metal injection moulding, in conventional sintering you can go up to a density of 7.2-7.3 and the component is also a relatively bigger size component which also would involve some additional machining and heat treatment and so on. However, in metal injection moulding the components are smaller in size having precision shapes. Further in some of the medical equipment components no external operations are allowed considering the nature of products. In case of medical equipments, consider the dental equipments, these cannot have a lower density and cannot do any external machining, these products can be manufactured through metal injection moulding.



Jignesh Raval,
Managing
Director,
Sintercom India

Currently, Sintercom is only in conventional sintering processes and that too only in passenger vehicle segments. The company has vision to diversify with other segments products in future, it has options available also for diversification into other technologies like the metal injection moulding.

CONCERNED INDUSTRIES

Automobiles, aerospace, medical equipments and consumer goods, all these industries are extensively making use of the products manufactured by sintering process. At Sintercom, currently the company focuses only on automobile industry but for future

prospects it is also working to diversify in to medical equipments and consumer goods.

MULTI-STAGE SINTERING

A multistage sintering process for powder metallurgical products of nickel aluminide intermetallic compound has been introduced. It comprises at least two stages of sintering and interstage cold deformation to collapse and eliminate the sintering pores. Most of all, a thermally absorbing material has to keep in contact with the powder compacts during the preliminary heating stage. This transient phase is a brittle and especially crispy material with a relatively low melting point (1135 7C). It plays an important role in preventing the development of any significantly large cracks during the pore-eliminating process. The purpose of the second stage of sintering material at an elevated temperature (1200 7C) is to develop a transient liquid phase from the Ni₂Al₃ to heal or eliminate any microcracks, crazes, and collapsed pores from previous steps, as well as to transfer the material to the final Ni₃Al structure. It is beneficial to produce a sound product having a large dimension and excellent mechanical properties.

Currently the products in the Sintercom portfolio do not call for such processes and hence Sintercom has not gone with multistage sintering.

TRANSMISSION COMPONENTS

Sintercom provides sintering components for transmission sub-system as well. The complexity in transmission products makes its beneficial

for the end users to produce through the same through the sintered route. Today, most of the synchro hubs used in the transmission assembly are manufactured through the sintering route. The sleeves where the synchro hub is fitted, those sleeves are also now converted in Europe, in India it is still not done. Sintercom is currently working on that development, but in Europe also, now the sleeves are converted into sintering process. Europeans are working on converting all the transmission gears also in to sintering, except the first and second gear where you have maximum load, you cannot convert but other gears can surely be converted in to sintered products. The manufacture is expected for it to happen here in three to four years of time, those requirements will also expected to come to India within next 4-5 years.

SINTERED PRODUCTS

The basic difference is elongation, in normal process you get elongation up to 30-33 percent, while in case of sintered products, the elongation is from 0.5-3 percent max. Sintered products cannot take any impact load, where forged products can take impact load because elongation is more. In machining process, when you have to produce smaller number of parts, it's obviously easy, but if you have to produce in larger quantity, sintering is a much faster way to produce.

SINTERING DOES HAVE AN EDGE

The basic advantages on sintering over traditional manufacturing processes are –

- Net shape components are produced in sintering. The yield in case of sintering is on an average at 95-97% as against the yield in traditional industry is at around 50-60% depending on the complexity of components.

- Components with less density make them lighter in weight thus helping to improve the overall efficiency of the vehicle

- Repeatability of the components since the products are produced from tool/moulds as against traditional method wherein each components have to be machined. So bound to have part to part variation. In machining, the least count is always based on the machine tolerance, whereas in sintered technology, you are producing from a tool, so, the repeatability and dimensional stability of the product are much better than the machining parameters.



CURRENT SCENARIO

The market is growing fast in sintering technology, on an average there is 18-25 percent growth in the sintered products per year for the next five years. The overall market is moving and there is increase in per engine per kg, the sintering parts are increasing. If the volume remains stable, still the sintering industry will see a growth.

MANUFACTURING PROCESS

Melting point of the metal decides the sintering temperature, height of the product decides the height of the furnace that is required. There are a lot of parameters and Sintercom is currently on the iron based products, the alloy of iron base, so the sintering temperature is somewhere around 1130-1140 degree Celsius. If the metal is changed the furnace also changes, different type of furnaces are required for aluminium. Major content is iron based itself, if you look at the industry, they are basically focused on that product. But, if there are good opportunities in near future with aluminium sintering, Sintercom is ready to explore that as well. Because, eventually the technology is the same, it's just that the company will have to buy the equipment and start producing the part.

OPPORTUNITIES

Per kg conversion is increasing in India now because the BS-VI will be soon implemented. The manufacturers want lighter engines, engines that make less noise, increase the fuel economy, emission control, so there are lot of requirements which have to be manufactured by sintering process. That is the main reason for the increase in demand for sintered products because of the benefits as explained above.

FUTURE PLAN

The short term strategy of the company is to expand into commercial segment and consumer goods. Long term strategy of the company is to expand into Metal injection moulding technology. //