 **Shore Auto Rubber Exports Pvt. Ltd.**
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IATF16949, ISO9001, ISO14001, OHSAS18001, REACH, ROHS, STAR-EXPORT HOUSE

A brief background of Keswani Group

- Auto Steel & Rubber Industries (ASRI) Pvt. Ltd. was founded in 1966, by Mr. D.T. Keswani
- Mr. D.T. Keswani was Founder of All India Rubber Industries Association – Pune Chapter and the main force behind Auto Cluster (Indian Government) laboratory getting a full fledged Rubber testing facility
- ASRI was the first Rubber Factory in Pune to be ISO 9000 certified in 1995-96
- A Premier Rubber Company, catering to various OEMs, in and around Pune, Bangalore and Ahmadabad, ASRI was the 1st company in India to develop NBC Hand gloves, on injection molding

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Shore Auto Rubber Exports Pvt. Ltd.

- Incorporated in 2003 (Hose production prior to 2003 was at M/s. Crestron Impex)
- Manufacturers of Rubber Hoses since 1990, & Reinforced Silicone Hoses since 1994
- Dedicated factory for silicone hoses (EOU unit), and for organic rubber hoses (DTA unit)
- 99% of the turnover in the silicone hose unit is “Exports”
- Special exemption from the Indian Government being an Export Oriented Unit (100% E.O.U): Duty free imports of Raw Materials and Capital Goods (Including tax exemptions for domestic purchases)
- Largest exporter from India for Automotive Reinforced Silicone Hoses
- Only company in India to use only British-made fabrics, for SAE J20 Class A Silicone Hoses
- Silicone hose unit: 30,500 square feet
- Black hose unit: 20,500 square feet

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Our Vision

- To maintain a strong human resource base, with continuous training, to manufacture products suitable for fuel efficiency, environment-friendly automotive and industrial equipment applications (OHSAS18001)
- To develop new types of hoses and enter new market segments to maintain leadership in the hose industry
- Not to degrade the environment in our endeavours (REACH and ISO14001 certified)
- To continually invest into capacity, as well as testing facilities



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Awards / Accolades

- Winner of AIRIA Top Export Award 2017-18
- Winner of AIRIA Export Merit Award 2016-17
- Winner of AIRIA Special Exports Award (Hoses) 2015-16
- Rated Amongst the top 100 SMEs of India (India SME Forum – 18/04/2013)
- Exports Growth Award from AIRIA 2014-15
- Exports Runner-up Award from AIRIA 2013-14
- Exports Merit Award from AIRIA in 2012-13
- Certificate of Merit Award for Exports, from CAPEXIL:2010-11



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Shore Infrastructure

- Modern Silicone Hose Unit (shop floor) of approximately 2400 square meters, with an office area of 185 square meters
- Only silicone hose factory in India to have air-conditioned mixing, calendaring and fabric-cutting facilities
- Fully fledged traceability system (Raw material to Finished goods)
- Exclusive use of American/German Silicone and German peroxides – no Indian/Chinese Brand



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Unmatched Quality

- Raw material
 - All Raw Materials purchased only from approved suppliers
 - Test certificates obtained for all purchased materials
 - All Raw Materials are tested, before being used, based on their Quality Policy

We have dual sources for all Raw Materials:

Shin-Etsu (Japan) and Momentive (India) for Fluorosilicone

John Heathcoat (UK) and Baltex (UK) for Polyester & Aramid Fabrics

Momentive (U.S.A) and Wacker (Germany) for Silicone Rubber

- Tools
 - Incoming inspection on all tools for both dimensions and surface finish.
 - All 3-D tools made on CNC

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Unmatched Quality

- Testing

The hoses are tested for:

- Burst Pressure
- Vacuum Pressure
- Adhesion

*Note:

These tests are carried out as per sampling plan.

Furthermore, we also have an online SPC programme in our Hose-Building processes.

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Unmatched Quality

- Final Inspection

Final inspection is carried out in the following sequence

- Visual inspection: to check surface defects & thickness variations. Visual inspection is for every hose i.e. 100 % of production
- Dimensional Inspection: conducted in line with a sampling plan to see that all parts sent to the customer are within tolerances
- Printing: to comply with customers' requirements



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Unmatched Quality

- Measuring Instruments
 - All measuring instruments are calibrated at predetermined intervals to consistently control dimensions
 - All records of calibration are maintained as per ISO/TS16949:2002 standard

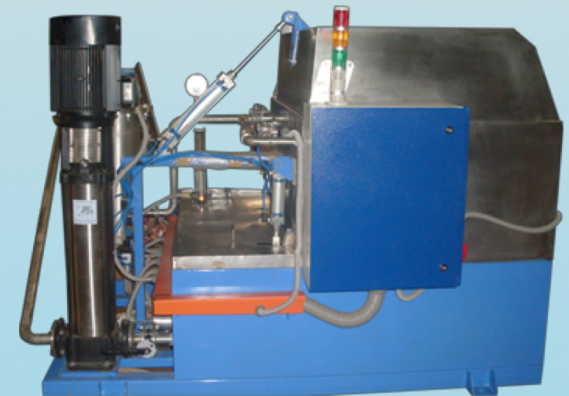


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Key Manufacturing Equipment

Description	Manufacturer	Installed Date
Cold-feed extruder for extrusion + co-extrusion (4" head)	Bharaj Machineries (Vasai – Thane)	July 2012
3 Roll Calender (14x42)	Slach (New Delhi)	November 2006
2 Roll Mixing mill (14x36)	GG Engg (Mumbai)	January 2010
Knitting Machine	Penguin (Coimbatore)	March 2004
Braiding Machine	Braid Solutions (New Delhi)	September 2007



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Key Testing Equipment

Description	Function	Manufacturer	Installation Date
Dynamic test-rig (0 to 3 bars)	Pulsating pressure tests of hoses while maintaining temperatures upto 220 deg. C inside/outside	Bhamare Industries (Pune)	May 2012
UTM	Tensile strength/Elongation/Modulus, etc	MCS (Ichalkaranji)	January 2011
Burst/Vaccum pressure rig	Burst and Vaccum pressure	Bhamare Industries (Pune)	March 2007
Rheometer	Peak curing time/temperature	Future Foundation	July 2008



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2015 Investments

- 48” Calendar Machine to be installed by January 2015 (completed)
- Internal Mixer to be installed by January 2015 (completed)
- Dimensional Control Machine with Control Panel (for 4-roll Calender) for Thickness and Concentricity to be installed by January 2015 (completed)
- Computerized 8.5m high storage system for Tool-storage (completed)

2016 Investments

- 600kg Boiler and two 6meter long Autoclaves for Organic Rubber Hoses (completed)
- Various other Automation confidential Automation projects (completed)
- Cellular Ovens for EOU unit: 4 pieces (completed)
- Sewage Treatment Plant (completed)

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Our Products



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Silicone - Polyester Hoses

Unless otherwise stated, our standard Reinforced silicone rubber hoses have 3 plies of Polyester reinforcement – this applies to all hoses up to an Internal Diameter of 60mm. For larger diameter hoses we use 4 plies of the same reinforcement to provide better pressure resistance. Our reinforced silicone hoses undergo extensive physical, chemical, and dynamic testing to perfectly match industry needs.

- Ideal for service in radiator, heater and coolant transfer
- Temperature range: -70° F to +350° F (-56° C to +177° C)
- Good resistance to weather and ozone and resists deterioration from coolant and heat transfer



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Silicone - Polyester Hoses

- Exceeds SAEJ20 Class A specification
- Available with the option of Fluorosilicone lining for added oil/ acids/ fuel resistance, or FKM/ Viton® lining for diesel combustion by-products/ exhaust gas recycle

* Also available in different RAL Colours

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Turbocharger/CAC Hoses and Air-Intake Hoses

- Flexible Connections between engine-mounted charge-air-cooler system parts.
- Also used to deliver pressurized intake air to the charge air intercooler and intake manifold
- Temperature range: -70° F to + 500° F (-56° C to + 252° C)
- Exceeds SAEJ20 Class A specification
- Aluminum/Glass-fibre heat shields can be provided to protect the hose surface if it is located very close to the heat source
- Available with the option of Fluorosilicone lining for added oil/acids/fuel resistance, or FKM/Viton (R) lining for diesel combustion by-products/exhaust gas recycle
- Convoluted (Bellow-type) shapes allow for easy installation and functioning, even if there are slight misalignments

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CAC

- Cold side Hose: Normally Blue colour with several layers of Polyester reinforcement (with or without FVMQ or FKM inner liners)
- Hot side Hose: Normally Red colour with several layers Meta-aramid reinforcement (with or without FVMQ or FKM inner liners)



- Note: Sometimes, the Cold side Hose can also be Black Neoprene or EPDM, with multiple layers of Polyester reinforcement

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Hoses for Organic Acid based Coolants

- Ideal for resistance to extremely corrosive organic acid based coolants, for example anti-freeze coolants (coolants containing Sebacate or, 2-ethylhexanoic acid)
- Exceeds SAEJ20 Class A specification
- Available with the option of Fluorosilicone lining for added oil/acids/fuel resistance, or FKM/Viton (R) lining for diesel combustion by-products/exhaust gas recycle



* Also available in different RAL Colours

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EPDM Rubber Hoses

- We manufacture EPDM Rubber hoses in a range of shapes and sizes as per DIN73411 and SAEJ20 Class D
- Typical use is in radiators
- Available in reinforced as well as non-reinforced options
- Reinforcement options – Nylon, Polyester, Aramid and Kevlar
- Also available in peroxide-cured EPDM



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Other Organic Rubber Hoses (for Lower Temperature applications)

- For Air/ Water/ Fuel transfer, we manufacture a range of hoses in SBR, , PVC/NBR, Hypalon®, Viton®, Neoprene® (CR), Vamac ® (AEM) and NBR
- The reinforcement fabrics used are usually Polyester and Nylon, and sometimes Kevlar ® / Aramid is used for higher temperatures or as per the customer' s requirements
- The inner tube and outer cover materials may vary, for example, inner nitrile/outer neoprene (available in reinforced, as well as non-reinforced options)
- We can also develop non-reinforced extruded tubes in different shapes, if the service pressure requirements are very low



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Rubber Moulded Parts

- We manufacture a range of custom-moulded parts in SBR, EPDM, PVC/ NBR, Silicone, Fluorosilicone, Fluorocarbon, Hypalon®, Neoprene®, Vamac®, NBR and HNBR
- Typical parts – O-rings, Grommets, Gaskets, Seals, Vibration Dampeners, Anti-vibration mountings
- Transfer, Injection and Compression moulding presses available
- Fully integrated factory with in-house laboratory and testing; for manufacture of mouldings weighing from 0.5 grams to 5 kgs
- Biggest moulding press: 1.2 meter x 0.6 meter



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Tuning / Performance Hoses

- We manufacture a range of Car & Bike kits for direct replacement
- If provided with the original sample, we can replace original EPDM rubber Hoses with Silicone Rubber Hoses
- Single piece design with several “spouts” can be designed so that a multi-piece connection can be converted into a single piece, thereby reducing the likelihood of leakages and reduce the cost of clamps



* Also available in different RAL Colours

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Marine Hoses

- Marine “Wet Exhaust” Hoses as per SAEJ2006-R3 specification
- Available in straight as well as convoluted (single/ double hump) design
- Usually Polyester reinforced but can also be supplied with meta-aramid reinforcement if service temperatures are consistently above 200° C
- Can also be supplied in EPDM rubber upon request

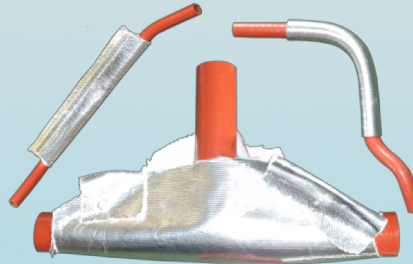


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New Developments

- Silicone hose with heat shield
This shield reflects the excessive heat thereby protecting the silicone layer



- New silicone ink marking for meta-aramid reinforced hoses
Permanent black marking can be made on the hose as per your requirement.



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New Developments

➤ Hoses made from FDA Flame Retardant Silicone Rubber for **Railway** applications (excellent low smoke emission / smoke toxicity)

- Limiting Oxygen Index: 43%

Standard	Rating
IEC 60695-11-10	V0
EN 45 545 Part 2	R1 HL2 R6 HL2
NF 16 101 Class I2	FO
BS 6853	Category A1



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Geographical Reach / Clients

- Distributors/ Stockists located in Finland, Hungary, Israel, Poland, and South Africa
- Client List:
 - OEM:** GE Energy (UK, USA, Germany, Brazil, China and India)
 - Isuzu (Turkey)
 - Mahindra Gujrat Tractors, Bombardier, TATA Motors, Greaves (India)
 - Tier-2 :**
 - Caterpillar (UK)
 - VDL Buses (Belgium)
 - Cummins (USA)
 - Faurecia (USA)
 - GM (USA)
 - Alexander-Dennis (UK)

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Thank You

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