



R.KALAIYARASAN

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Objective:

To acquire advanced knowledge in my concern and to propel the growth of organization with sincere and dedicated smart work.

Executive Summary:

3+ year experienced researcher in the field of polymer products with an M. Tech degree in Rubber Technology. My major expertise lies in new formulation and product development for bulk material handling systems like rubber products, gaskets, rubber to metal bonded products and solid tyres. Hands on experience in development activities of rubber moulds, compounding and characterization of polymeric composites. Also, I am skillful for designing and simulation of rubber products for various applications.

Professional Experience:

Rubber Technologist- Production in Avadh Rail Infra ltd, Maraimalai Nagar, Chennai, India (Oct-2019 – present)

Various parts of rubber components used in rails, road wheels, solid tyres manufacturer in India.

Present Job Responsibilities

- Carrying out new product development of rubber products and related moulds and formulating rubber compounds
- Development of the product as per the design criteria's and establish SOP. Testing and material evaluation of rubber compounds as per the standards. Handling of testing equipment's in R&D lab.
- Involved in research and innovative development of new projects to commercialize.
- Defects troubleshooting in plant processing and compounding. Establishing lead times for each stage of production process. Deciding which machines will be used in production process.
- Making sure that products are produced on time and to quality. Providing technical assistance and support to staffs and end users.

Assistant Manager- Engineering (New Product Development) in Prabhat Elastomers pvt Ltd, Sarigam, Gujarat: [From April-2018 to May-2019]

Responsibilities:

- Carrying out new product development projects and testing as per customer requirements.

- Designing of rubber and plastic product as per customer requirements using different methods and modelling of moulds and fixtures using **Auto CAD** and **SOLID WORKS** software.
- Costing and development of cost efficient compounds and moulds.
- Assigned with the responsibilities of creating the Dimensional Drawings, Main Assembly Drawing, Part Drawings and the complete Bill of Materials (BOM) for Rubber Products, Plastic products and Mould.
- Defects troubleshooting in-plant processing and compounding. Interacting with customers or vendors and perform work related to modification, conversion on various projects running for production.

Design Engineer in Elastomers Division, Advanced Systems Laboratory (Missile Laboratory of DRDO INDIA): [from June-2017 to March-2018]

- Designing and Modelling of Rubber and Plastic Components, Dies and fixtures using **Auto CAD, SOLID WORKS and CATIA** software.
- Finite Element Analysis of various components used in missile system using **MSC.MARC software** which had been procured by Elastomers Division.
- Testing of rubber components, like, physio-mechanical, compression stress relaxation, Dynamic Mechanical Analysis, etc.
- Life Prediction of Rubber Compounds & Components by Compression Stress Relaxation & other Analytical methods. Development, Qualification & Testing of Aerospace Grade Rubber components.

Technical experience:

- **Tools known:** Auto-CAD, SOLID WORKS, CATIA, CREO, MSC.MARC.
- **CATIA**-Course trained in AU-FRG Institute for CAD/CAM, Anna University, Chennai.
- **SOLID WORKS**- Course learned in CADD centre, Selaiyur, Chennai.

Educational qualification:

- M.Tech Rubber Technology (2015-2017) with aggregate of CGPA- 7.57 from Madras Institute of Technology, Chrompet, Chennai.
- B.Tech Mechanical (2010-2014) with aggregate of CGPA- 6.46 from University college of Engineering Villupuram
- HSC (2009-2010) with aggregate of 67.5% from Srinivasa Higher Secondary School, Melaiyur.
- SSLC (2007-2008) with aggregate of 80.6% from Srinivasa Higher Secondary School, Melaiyur.

Academic related training & project

- **Elastomers Division, Advanced Systems Laboratory (Missile Laboratory of DRDO):** Has undergone training in Rubber Formulation, Two roll mill mixing, Compression moulding, Oscillating Disc Rheometer, Universal Testing Machine, Hardness Testing, Thermal Ageing, Swelling and Cross-link Density studies.
- Short term training on “Rubber product manufacturing and testing” for Rubber Training Institute, Kottayam.
- About automobile Infrastructure trained in “Tamilnadu State Transport Corporation Limited,Villupuram”.

M.Tech project title: Mechanical simulation of Nitrile(NBR) O-ring by Finite Element Analysis techniques using Hyperelastic and viscoelastic models.

About the project: Carried out project Work at Elastomers division of Advanced system laboratory, DRDO, Hyderabad. In this study, Nitrile rubber seals are the choice of sealing elements in hydraulic subsystems of many aerospace applications. accelerated ageing techniques is used to evaluate physio mechanical properties and the results are compared for both aged and unaged conditions. An attempt has been made to validate the life of nitrile rubber O-rings in AMG 10 hydraulic oil environment using finite element analysis tool.

B.E project title: Automatic load lifter for automobiles

About the project: In this study, we were made a prototype model of load lifter in the sides of wheels in cars. By help of pneumatic cylinder for carrying a load when the vehicle gets breakdown.

Accomplishments:

- Won prize in CAD event, held in E.S Engineering College, Villupuram.
- Been a coordinator of National level technical symposium AGNIMITHRA'13 in University College of Engineering Villupuram.
- A volunteer in National Service Scheme and Junior Red Cross.
- Participated in workshops of AGNIMITHRA held at UCEV, Villupuram.
- Post graduate representative in Madras Institute of Technology Campus.2016-2017.

PERSONAL DETAILS

Date of Birth	:	11 th June 1993
Father's name	:	Mr.K.Ramamoorthy
Mother's Name	:	Mrs.R.Dhanalakshmi
Address	:	3/146A,Patthar Street,Kadalangudi, ThirumeniyarKoil (PO) Mayiladuthurai (TK), 609204.
Mobile No.	:	(0)9543225335
E.mail	:	kalai3005@gmail.com
Languages Known	:	To read, write and speak Tamil, English and Hindi. To speak Telugu.

REFERENCES

1. Dr. N. Natchimuthu, HOD, Dept. of Rubber and plastics Tech., Anna University, MIT Campus,Ph.9444981996.
2. Dr. K. Ravichadran, Professor, Dept. of Rubber and plastics Tech., Anna University, MIT Campus,Ph.9444012674.
3. Mr. Rajesh G, Scientist 'E', Head, Elastomers Division, Advanced Systems Laboratory[ASL], DRDO, Hyderabad, Telangana, India, Ph: 9502048932

DECLARATION

I hereby declare that the information provided above is true to the best of my knowledge and I bear the responsibility of the correctness of the particulars mentioned above.

Place:

Date:

Kalaiyarasan R