




## **GAZIANI STEEL INDUSTRIES**

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**[www.gazianigroup.com](http://www.gazianigroup.com)**





# INTRODUCTION

Gaziani Group of Companies is one of the most progressive business groups in Pakistan. Gaziani Steel Industries (GSI) manufactures automobile leaf springs for suspension of buses and trucks.

Gaziani Steel Industry (GSI), leading creator of leaf springs in Pakistan. We supply to OEM's (Heavy / Light commercial vehicles), pyramid selling nationwide. Leaf spring production was started in 1987 by Haji Abdul Ghani Gaziani. Currently it is running under supervision of his son Muhammad Qasim Gaziani (owner of GSI). He expanded his business with the most modern and sophisticated automatic continuous system technology from Japan backed by the technical expertise from Japanese technical team.

GSI has the productivity output of above 6000 metric tons per annum. We work on tailor made solutions as per buyer demands. Our expertise includes the development of vehicle suspension systems for all heavy & light vehicles. Through effective business practices, our management and technical experts evaluate, prioritize and implement projects to assure client satisfaction.

GSI is not only a manufacturer and also sells its own finished products but also makes customized objects in order to meet the demands of our valued patrons. The quality policy of the GSI can be seen from the fact that it has achieved international standards. At GSI, our consumer needs are our driving force. We provide them products with consistent quality at a very competitive price. We assure prompt services like quick inquiry response and dependable delivery of goods. Moreover we always strive to ensure that our products and services meet your needs now and in the future also.

Raw material (spring flat bar) used by GSI, is produced at Pakistan's renowned steel mill (People's Steel Mill) working under the supervision of the Government of Pakistan. The projects are subject to strict quality control and are according to international standards.

The GSI products have withstood and proved its trustworthiness against heat and climate with four decades of experience in mass produce of heavy suspensions. GSI has carved a niche for itself in the self-propelled component industry. Each of our result meet & vindicate the international quality standards. We are also known for the unsurpassed speed of quality, delivery and after sales service.





## PRODUCTS

# STEEL FOR AUTOMOBILE LEAF SPRINGS

We manufacture Automobile Leaf Springs as per the following steel specification.

- SAE – Sa 9260, SAE 5160, SAE 5160H, SAE 51B60, SAE 4161H, SAE 8660H
- ISI – 50 Cr 4 V2, 60 Cr V2, 55 Si 7, 60 Si 7, 65 Si 7
- DIN – 60 Si Cr 7, 55 Cr 3, 50 Cr V4, 51 Cr Mo V4
- JIS – SUP6, SUP 9, SUP 9A, SUP11A
- BS – EN 45, EN 45A, EN 47

## PRODUCT RANGE

# LEAF SPRINGS (MULTILEAF & PARABOLIC) FOR:

- Passenger Cars & Jeeps
- Heavy duty Trucks & Buses
- Light duty Trucks & Buses
- Light Commercial Vehicles
- Agricultural Trailers
- Boat Trailer
- Golf Carts
- Mobile Homes

## SPECIFICATION

# PRODUCT SPECIFICATION

- |                                 |  |
|---------------------------------|--|
| ● Weight of the leaf Spring     | 3 kgs to 250 kgs (6.6 lbs to 551.25 lbs) |
| ● Number Of Leaf In An Assembly | 1 to 22 Leafs                            |
| ● Leaf Span                     | 200 to 2000 mm                           |
| ● Width Of The Leaf             | 40 to 120 mm                             |
| ● Leaf Thickness                | 5 to 40 mm                               |
| ● Sheared Length                | 100 to 2200 mm                           |
| ● Inside Eye Diameter           | 12 to 50 mm                              |
| ● Taper Length                  | Max 350 mm                               |
| ● Parabolic Taper Gradient      | Max 1/10                                 |
| ● Camber                        | Max 300 mm                               |
| ● Pre Setting Load              | Max 25,000 kgs (55125 lbs)               |
| ● Testing Load                  | Max 20,000 kgs (44100 lbs)               |

## CHARACTERISTICS OF LEAF SPRING

- Leaf spring acts as a linkage for holding the axle in position and thus separate linkage are not necessary. It makes the construction of the suspension simple and strong.
- As the positioning of the axle is carried out by the leaf springs so it makes it disadvantageous to use soft springs i.e. a spring with low spring constant.
- Therefore, this type of suspension does not provide good riding comfort. The inter-leaf friction between the leaf springs affects the riding comfort.
- Acceleration and braking torque cause wind-up and vibration. Also wind-up causes rear-end squat and nose-diving.



## STANDARD SIZE OF LEAF SPRING

- Width (mm) : 25-80 mm in steps of 5 mm.
- Thickness (mm) : 2-8 mm in steps of 1 mm, 10-16 mm in steps of 2 mm.

## MANUFACTURING PROCESS

- Shearing of flat bar
- Center hole punching / Drilling
- End heating process forming
  - Eye Forming / Wrapper Forming
  - Diamond cutting / end trimming / width cutting / end tapering
  - End punching / end grooving / end bending / end forging / eye grinding
  - Center hole punching / Drilling / nibbling
- Heat Treatment
  - Heating
  - Chamber forming
  - Hardening
  - Quenching
  - Tempering
- Surface preparation
  - Shot peening / Stress peening
  - Primary painting
- Eye bush preparation process
  - Eye reaming / eye boring
  - Bush insertion
  - Bush reaming
- Assemble
  - Presetting & load testing
  - Finish painting
  - Marking & packing
- Eye bush preparation process
  - Eye reaming / eye boring
  - Bush insertion
  - Bush reaming
- Eye bush preparation process
  - Eye reaming / eye boring
  - Bush insertion
  - Bush reaming



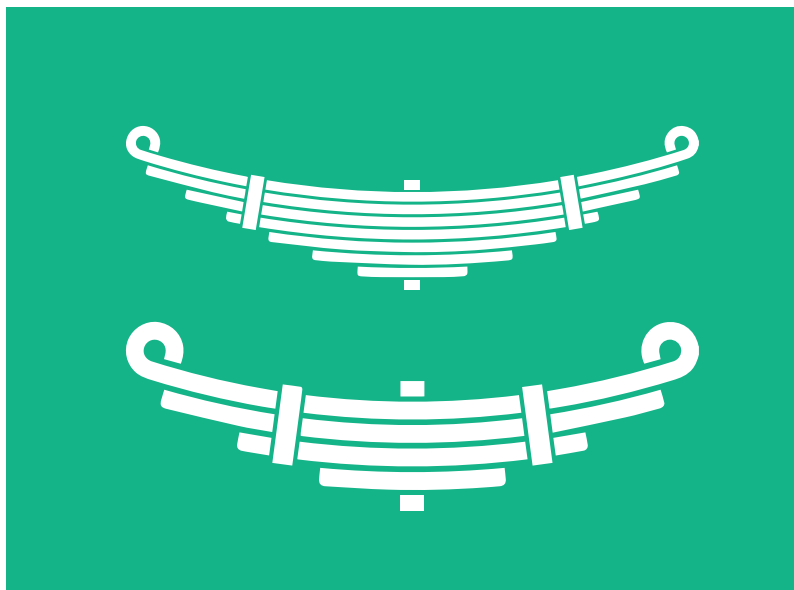




# QUALITY ASSURANCE ACTIVITY

- Inspection of incoming material and vendorized parts.
- In-line inspection of radiator and spring.
- Statistical process control
- Continuous improvement to reduce rework and rejection of both the products. Calibration of measuring equipments internally and externally.
- Identify the non-conformities of the quality management system.
- Testing of material e.g. tensile test, microstructure, decarburize depth.

## GALLERY





## Contact Us

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