

South Korea Automotive Parts Zinc Die Casting - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2026 - 2031)

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Report description:

South Korea Automotive Parts Zinc Die Casting Market Analysis

South Korea Automotive Parts Zinc Die Casting Market size in 2026 is estimated at USD 394.96 million, growing from 2025 value of USD 378.93 million with 2031 projections showing USD 485.79 million, growing at 4.23% CAGR over 2026-2031. The market size momentum rests on the rebound of domestic vehicle assembly volumes, steady electrification targets, and ongoing OEM localization programs. Recovery funding for automotive manufacturers, announced in 2024, underpins new capacity additions and keeps order books healthy despite lingering tariff uncertainties. Simultaneously, lightweighting mandates and the migration to higher-value thermal-management components are shifting alloy choices toward higher-strength formulations. Process-level upgrades, especially smart-factory retrofits in Ulsan, Changwon, and Gyeonggi, are improving yield and mitigating energy-cost headwinds. Competitive intensity remains moderate, with mid-sized die casters adopting real-time process analytics to secure long-term supply agreements with Hyundai Motor Group and other global OEMs.

South Korea Automotive Parts Zinc Die Casting Market Trends and Insights

Recovery In Domestic Automotive Production Volumes Post-2024

Annual vehicle assembly at Hyundai's Ulsan complex has returned to pre-pandemic rhythm, and a KRW 2 trillion EV-dedicated expansion scheduled for 2025 reinforces part procurement visibility. More than 300 tier-1 and tier-2 suppliers clustered in the region have restored three-shift operations, raising order flow for precision zinc castings used in door hinges, wiper systems, and

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seat frames. The national export surge creates additional pull for export-oriented die casters servicing mixed-model platforms. Volumetric rebound helps amortize tooling investments and offsets energy-cost escalation, keeping margins intact for high-volume parts. Suppliers now co-engineer castings at the design stage, shortening time-to-market for model-year 2026 launches.

Rapid EV Adoption Creating New Thermal-Management Parts

The pivot to battery-electric vehicles multiplies zinc casting demand for power-electronics housings, battery-pack frames, and integrated coolant manifolds. Hyundai WIA's commercial roll-out of a one-piece EV thermal-management module in 2023 validated zinc's superior thermal conductivity for compact under-hood packaging. Unlike combustion-engine radiators, EV modules regulate three heat zones-battery, inverter, and e-motor-necessitating intricate internal flow paths best formed through high-pressure zinc casting. Domestic suppliers exporting to U.S. and European EV brands gain from Korea's robust EMC testing infrastructure, positioning zinc die casting as a premium solution for thermal and electromagnetic compliance. As EV volumes climb toward the 4.2 million-unit national target by 2030, order frequency for these complex parts is expected to scale faster than overall vehicle builds.

High Energy & Processing Costs vs. Aluminum

Industrial electricity tariffs climbed more than three-fifth between 2022 and 2024, hitting energy-intensive hot-chamber lines especially hard. Although zinc melts at lower temperatures than aluminum, the continuous hold temperature and frequent reheats boost net kWh per kilogram. Some mid-tier foundries are experimenting with induction furnaces powered by PV-backed microgrids, but capital outlays remain daunting. Immediate pressure is visible in thinner operating margins for small contract casters, prompting consolidation.

Other drivers and restraints analyzed in the detailed report include:

Weight-Reduction Targets Driving Thinner-Wall Zinc Castings
Government Incentives For Smart-Factory Upgrades
Zinc-Price Volatility From Global Supply Disruptions

For complete list of drivers and restraints, kindly check the Table Of Contents.

Segment Analysis

Pressure die casting holds 66.42% of the South Korea automotive parts zinc die casting market share in 2025. Whereas, semi-solid casting is anticipated to post a 4.27% CAGR, The emerging technique combines thixotropic slurry control and high fill rates, producing structural parts with fewer voids and superior fatigue resistance. Automakers allocating budgets to battery-tray reinforcement panels prefer semi-solid due to tighter dimensional tolerances. Pressure die casting keeps scale economies intact for door handles and window regulators, maintaining high OEE on legacy lines. Continuous shot monitoring and servo-driven plungers are pushing CTQ yields beyond 97%. South Korea automotive parts zinc die casting market participants blend both technologies to balance volume economics with premium applications.

Despite its high share, pressure die casting is under process-optimization pressure to stay cost-competitive. Investments in vacuum venting and dual-plunger gates lift mechanical properties closer to semi-solid outputs, blurring traditional boundaries. OEM engineers now specify micro-porosity levels measured via computed tomography, nudging casters toward hybrid tooling solutions. Overseas customers visiting Changwon facilities often contract parallel pilot runs in both technologies before line-side deployment, elongating quoting cycles but locking in multi-year volumes once qualified.

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Zamak 3 alloys, though representing 41.78% of the South Korea automotive parts zinc die casting market share in 2025, are primarily used in door-lock housings, hood latches, and interior bezels. Zamak 5, with its copper booster, is used for styling parts requiring elevated corrosion resistance. ZA alloys are forecast to clock a 4.36% CAGR, the fastest among alloy categories. Their aluminum content above one-tenth provides tensile strengths exceeding 400 MPa, allowing thinner cross-sections without creep. Suppliers report machining-time savings of up to 18% due to improved chip breakage, offsetting marginal raw-metal price premiums.

Material spec shifts often follow joint cost-down workshops held by Hyundai Mobis and tier-1 die casters. Lifecycle simulations now factor vibration frequency spectra unique to battery-electric platforms, driving migration to ZA alloy variants. As OEMs commit to global recycling targets, the superior recyclability of traditional Zamak blends ensures baseline volumes, securing foundry capacity utilization. South Korea automotive parts zinc die casting market size growth therefore reflects parallel demand vectors across traditional and advanced alloys.

The South Korea Automotive Parts Zinc Die Casting Market Report is Segmented by Production Process Type (Pressure Die Casting and More), Alloy Type (Zamak 3, Zamak 5, and More), Application (Body Assemblies, Engine Parts, and More), End-User Vehicle Type (Passenger Vehicles, Light Commercial Vehicles, and More), and Sales Channel (OEM and Aftermarket). The Market Forecasts are Provided in Terms of Value (USD).

List of Companies Covered in this Report:

Dynacast Korea Hyundai WIA Corp. DaeWon Die Casting Co., Ltd. Ryobi Die Casting Korea Co., Ltd. Ahresty Korea Co., Ltd. Hwasung Die Casting Co., Ltd. DongDo Metal Co., Ltd. Pace Industries Sandhar Technologies Ltd. Empire Casting Co. Brillcast Manufacturing LLC Cascade Die Casting Group Inc. Iljin Die Casting Co., Ltd. Sewon Die Casting Co., Ltd. KS Tech Co., Ltd. Kemlows Diecasting Products Ltd. Daesan Machinery Co., Ltd. Hanwha TechM Ningbo Die Casting Company Ashok Minda Group

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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