LOTTE ADVANCED MATERIALS offers a wide range of customized solutions from design to molding to reliability test.

The company has created diverse CAE analysis techniques and developed new injection molding techniques and pre-and-post extrusion/injection services and runs reliability tests. In addition, the company carries out joint development projects with customers by offering molding guidelines to develop new products.

- Processing solutions
- Molding solutions
- Injection solutions
- CAE Service
LOTTE ADVANCED MATERIALS offers various processing solutions: high temperature molding, microcellular foaming molding, double injection, hole cutting and injection/extrusion molding.

- High temperature molding to remove weld lines
- Microcellular foaming molding to achieve lightweight and cut production cost saving
- Double injection molding for various color effects and color depth.
- Hole cutting to remove weld lines near holes of metal-like materials
- Injection compression molding to decrease the residual stress
LOTTE ADVANCED MATERIALS provides total molding solutions including product design, gate structure, cooling circuits, gas vent, molding technologies, molding design guidelines so that customers can produce the top-quality mold based on CAE analysis and pre-production assessment. In addition, the company offers guidelines to improve productivity such as techniques to manage molds during the mass production stage and mold material sections.
Injection Solution

LOTTE ADVANCED MATERIALS has various molds to test flow mark, weld lines, gate mark, cracks, boss strength and other factors. The company proposes the optimized injection molding conditions based on the molding tests in connection with quality issues, while offering necessary injection molding guidelines to customers through the product quality assessment.

Test Mold Line-up
- Flow Mark
- Panel
- Thick Frame
- Boss
- Weld
- Dual Frame
- Luminous
- Borderless
- MIP DALI
- Sequential Frame
- Bracket(LFRT)
- Spiral
- Shrinkage

[Injection Conditions]

[Quality Assessment]

[Evaluation Lab]
LOTTE ADVANCED MATERIALS provides development solutions and upgrade solutions for mass-market products through application assessment of structure, environmental and automotive materials. The company also offers customer support solutions through various application assessments.

## Reliability test solution

**LOTTE ADVANCED MATERIALS**, a subsidiary of the leading global conglomerate, LOTTE Group, is dedicated to providing comprehensive solutions in the fields of development, research, and technical support across various industries. The company’s strength lies in its ability to conduct thorough assessments and evaluations of materials, ensuring reliability and durability in mass-market products. LOTTE ADVANCED MATERIALS’ reliability test solutions encompass a wide range of assessments, including structural, environmental, and automotive materials, to ensure that products meet the highest standards of quality and performance.

### Structural test Part
- Impact assessment
- Durability assessment
- Strength assessment
- Injection product application assessment
- Vibration characteristics assessment
- Product assessment
- Application property assessment

### Environmental test Part
- Weatherability/Light stability assessment
- UV assessment
- Fogging assessment
- Chemical resistance assessment
- Heat shock and heat cycle
- Constant temperature and humidity assessment

### Automotive material Part
- Surface characteristics and appearance assessment
- Automotive material assessment
- Abrasion characteristics assessment
- Scratch characteristics assessment

**Development Support**

**Mass production Support**

**Customer Support**

**Formation of assessment methodology**
CAE Service

CAE analysis involves providing new product design guides, trouble-shooting, solution guide and replacement of materials. Specially, CAE can minimize correction of troubleshooting through Concurrent Engineering, mold design and optimization of processing technology by enforcing injection CAE, and product costs and time may be reduced by enhancing productivity and reliability.

Unified CAE-One CAE Solver for multiple CAE problems

<table>
<thead>
<tr>
<th>Pre/Post Processor</th>
<th>Solver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypermesh V10</td>
<td>Moldex 3D R9.1</td>
</tr>
<tr>
<td>CAPA</td>
<td>Autodesk 2011</td>
</tr>
<tr>
<td>Rhino</td>
<td>Ansys V12.1</td>
</tr>
<tr>
<td>UGNX V7.5</td>
<td>Nastran 2010 (MD)</td>
</tr>
<tr>
<td></td>
<td>Dyna V970</td>
</tr>
<tr>
<td></td>
<td>PIAnto V3.2</td>
</tr>
<tr>
<td></td>
<td>Polyflow V12.1</td>
</tr>
<tr>
<td></td>
<td>Fluent V13</td>
</tr>
<tr>
<td></td>
<td>ABAQUS V6.5</td>
</tr>
<tr>
<td></td>
<td>FEMFAT Plast</td>
</tr>
</tbody>
</table>

Solution provider by CAE line-up

CAE Line-Up

- Injection, Gas
- Insert Optic, ICM
- Injection
- Optimization
- Reliability Lab
- Structural, Thermal
- Impact, Vibration, Radiation
- Structural
- Extrusion
- Material

Import to CAD interface from the customer ➔ Build to FEM and Pre/Post Processor ➔ CAE Analysis ➔ Solution Provider (Trouble Shooting & Design)