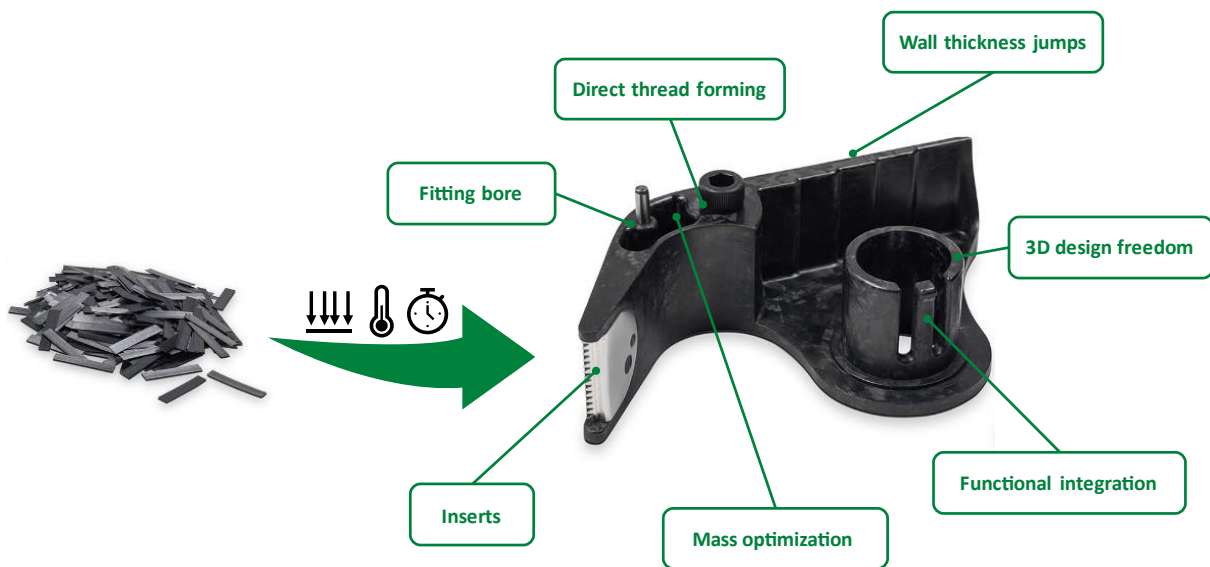


aCC-Process (“Automated Composite Compression Process”)

Structural composite parts every 10 minutes

Fiber chips, a combination of **thermoplastic matrix** and **reinforcing fibers**, are **automatically** pressed in a mold **under pressure** and **temperature** into complex 3D shaped parts. There are virtually no limits in terms of **component complexity**, namely precise thread impressions, precision-fit bores, integrated connecting elements or wall thickness jumps. The **mechanical properties** can be adjusted specifically over the length and type of the fiber chips - in the range of aluminum up to properties in the range of continuous fibers - with a **40% lower density** than aluminum!

aCC components are particularly suitable in those applications where injection molded parts have too low mechanical values even with fiber reinforcement and aluminum components are too heavy.



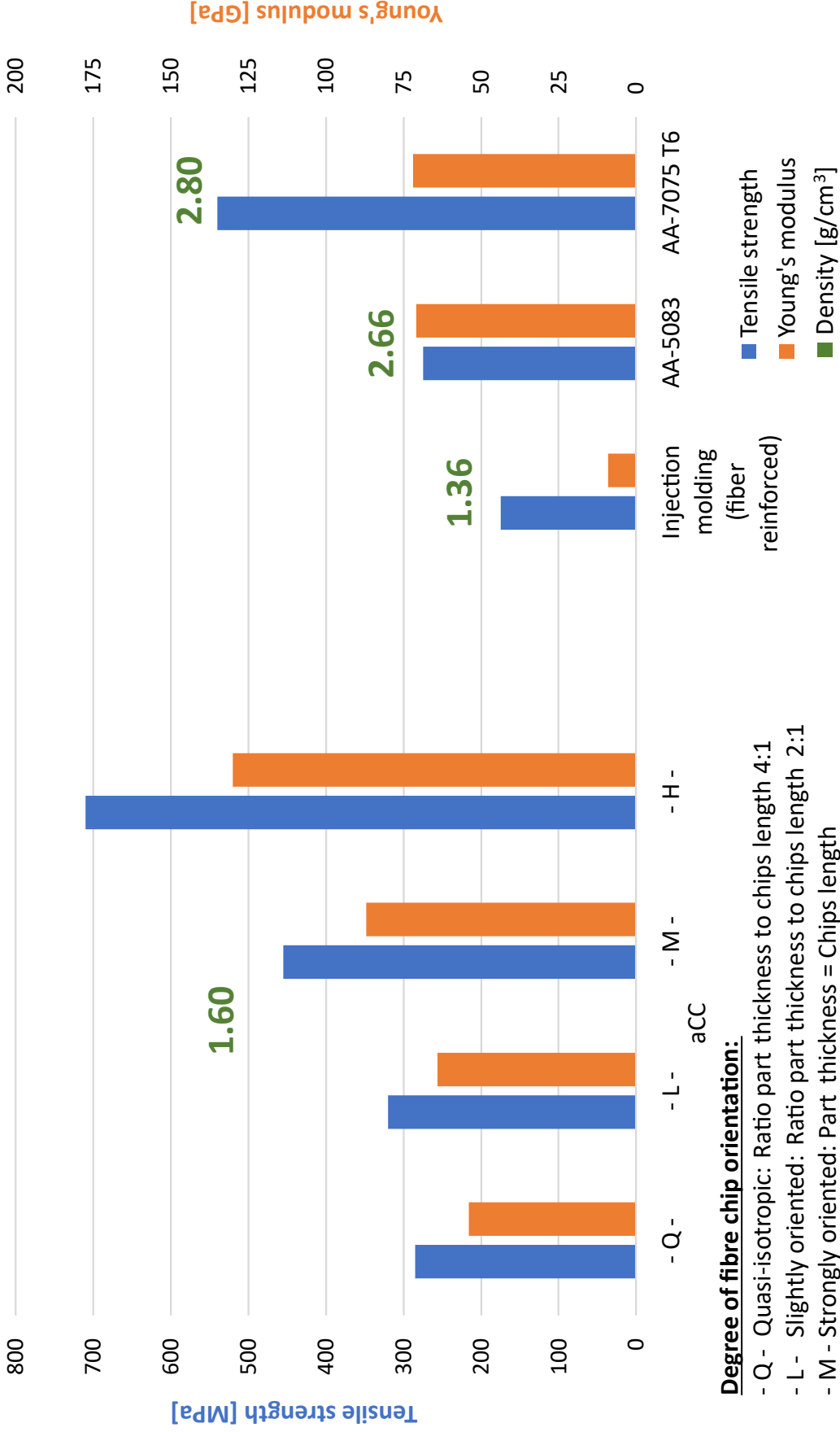
Automated production ensures **high reproducibility** in series production and, depending on the size of the component, achieves a **manufacturing volume** of up to 100,000 components per year. In contrast to thermoset matrix systems, a complete **recycling** of the fiber chips by means of high-voltage fragmentation is possible. The chips can then be returned to the aCC process.

Your requirements define the material ...

- **Matrix material:** PA, PC, PEEK, PEI, PPS, PES
 - **Reinforcing fibers:** mainly carbon and glass fibers
 - Density* from 1.36 bis 1.60 g/cm³
 - Fiber volume content* from 45% bis 58%
- * depending on the choice of matrix material and reinforcing fibers

Have we piqued your interest? Contact us at mail@naegeli.ch - we are happy to assist you with your next innovation! But Nägeli Swiss AG can do even more: Visit us at www.naegeli.ch and find out more about our competences.

aCC-Process with PEI/CF fiber chips by comparison



Degree of fibre chip orientation:

- Q - Quasi-isotropic: Ratio part thickness to chips length 4:1
- L - Slightly oriented: Ratio part thickness to chips length 2:1
- M - Strongly oriented: Part thickness = Chips length
- H - Quasi-unidirectional: Part thickness << Chips length