

materials technology



research and development
technical support
material data

materials technology

CPI has developed materials, for reciprocating compressors, that when incorporated into critical sealing components improves performance, efficiency and profitability.

CPI materials technology

CPI is at the leading edge of materials development and has a reputation for innovative and pioneering materials. For instance, the introduction of CPI Special Polymer Alloys revolutionized piston and packing ring performance in reciprocating compressors, enhancing their operation and reliability.

research and development

The research and development team at CPI has earned itself a strong reputation within the compressor industry, with its cutting edge and proactive approach to the research and development of new and improved materials.

material diversity

CPI's materials technology is further advanced with high-tech polymers and other diverse material capabilities, including processes such as injection and transfer molding, and extrusion. This further widens the scope for more unique material developments, and allows diversification into other products and industrial applications.

CPI materials technology

The exacting process of producing CPI materials for specialized applications and gases begins after extensive research and testing of various combinations of raw powdered compounds that will make up the final material blend. Testing of materials takes various forms, which includes physical and mechanical properties as well as wear performance.

Once the formulated blend for a CPI material has been finalized the materials are produced at one of CPI's specialized molding facilities located in the USA, Canada and Europe.

The molded materials are produced as bushings or blanks for the machining of components such as, piston rings, rider rings, packings and valves, at the various CPI manufacturing facilities located worldwide.



materials

CPI Special Polymer Alloys

CPI proprietary Special Polymer Alloys have been successfully applied to piston and rod sealing components, providing excellent reliability and efficient performance.

These materials have enabled many compressor operators to achieve longer seal lives compared to other materials available. They have also made it possible for changes and improvements to compressor designs which have significantly improved reliability and reduced operating costs.

CPI Special Polymer Alloys solved the problem of seal life in existing non-lubricated compressors. They are also used to convert lubricated compressors to non-lubricated operation in ways that were not previously possible with traditional filled PTFE materials.

CPI material processing

- **compression molding**

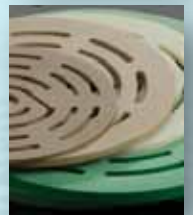
Standard filled PTFE grades are typically free sintered whereas the specialty alloys are hot compression molded.

- **injection molding**

Thermoplastics such as nylon and PEEK are injection molded in high volumes or unique shapes.

- **extrusion and transfer molding**

Thermoplastics are also extrusion or transfer molded to achieve unique or complex part designs and large diameters that are not possible using traditional compression or injection molding techniques.





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CPI's unique approach in developing new non metallic materials used in the production of valve plates, piston rings, rider rings, packings and oil wipers, together with our application expertise, has transformed the performance and reliability of reciprocating compressors for many operators in a wide range of applications around the world. Further information about CPI's specialized products, general product range and services can be accessed via our website at: www.c-p-i.com

evolving solutions
around your world.



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