

Apogee CUSTOM REFRACTORY

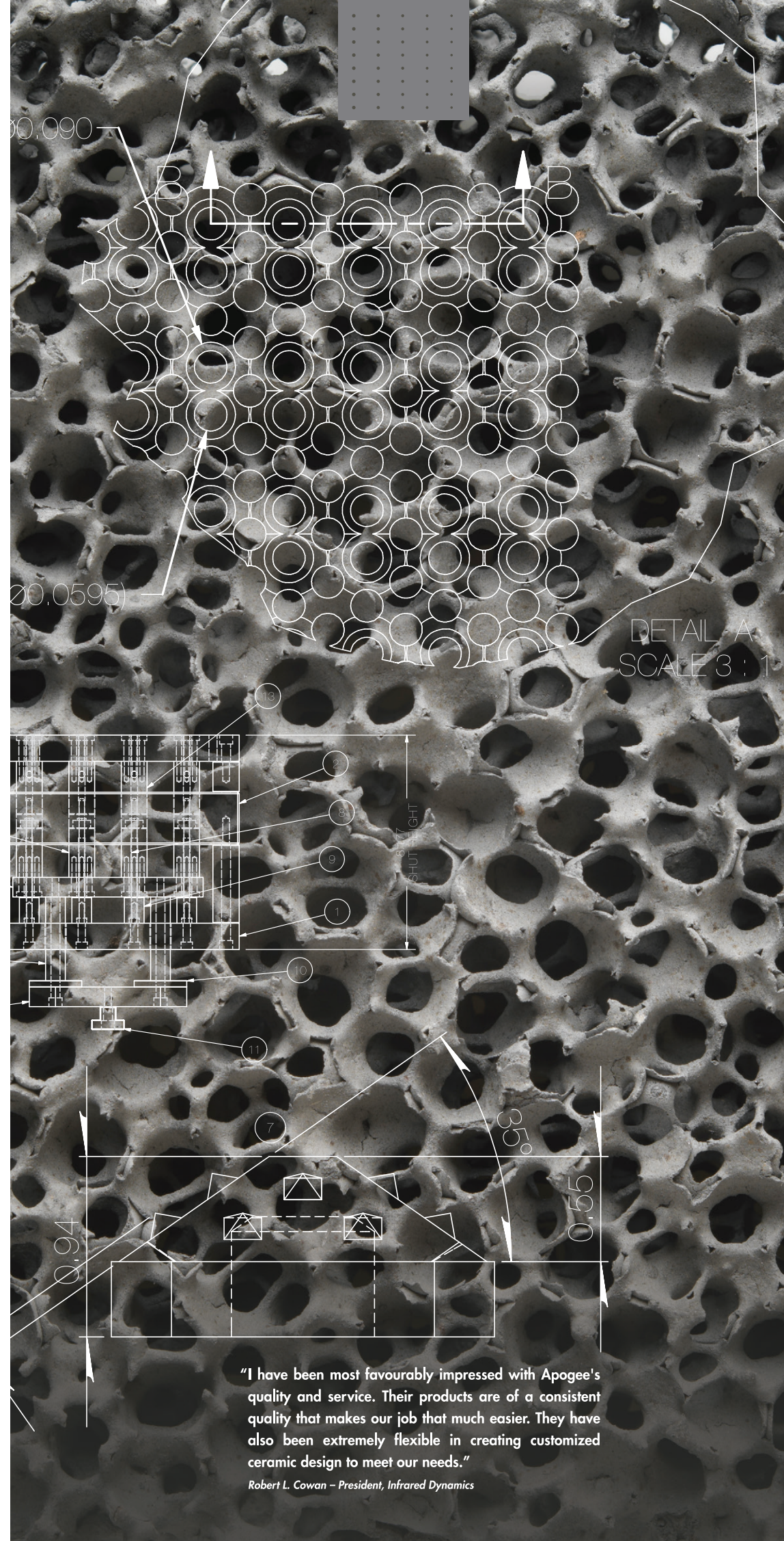
Custom refractory and other specialty ceramic shapes precisely designed to provide cost-effective solutions to many different engineering applications.

- o Mullite, cordierite and porcelain bodies engineered to suit
- o Wide variety of shapes and geometry
- o Formulated using optimal blend of aggregate chemistries and densities
- o Precise dimensional and mechanical properties
- o State-of-the-art processes and materials
- o Cost-effective prototyping capabilities
- o Engineered to withstand temperatures of up to 1375°C (2500°F)



"We have had a great experience with Apogee through the last few years. Years of experience in advanced ceramic technology combined with high-quality products, superb customer service and fast response to all our engineering and production needs has given us the highest confidence in Apogee as a supplier of one of our most critical components."

Farshid Ahmady – Vice-President Research and Development, Solaronics, Inc.



"I have been most favourably impressed with Apogee's quality and service. Their products are of a consistent quality that makes our job that much easier. They have also been extremely flexible in creating customized ceramic design to meet our needs."

Robert L. Cowan – President, Infrared Dynamics

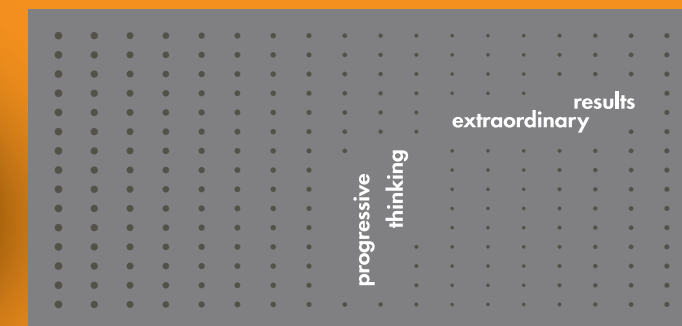
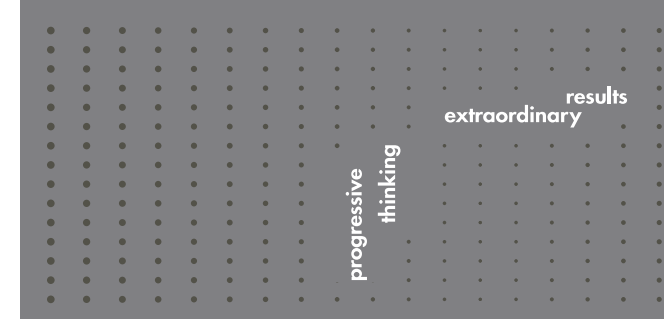
Specialized in technical ceramics – It's no wonder more and more global leaders are choosing Apogee

- o Superior product material composition and surface finish for optimal performance
- o Collective 300+ years of design, engineering, combustion, process, quality and manufacturing experience backing you up
- o In-house R&D, tool design and fabrication shop for fast and precise deliverables
- o Continuous improvement and new product development initiatives that will save you time and money
- o Fast and reliable global delivery that you can rely on
- o A new choice – progressive and extraordinary



Serving North America, Europe and Asia

WWW.APOGEECERAMICS.COM



- CERAMIC PLAQUES
- TECHNICAL CERAMICS
- FOUNDRY PRODUCTS
- CUSTOM REFRACTORY



Technical flexibility

Superior composition

Experience and expertise

Excellent service

o Have virtually any custom or low-quantity request fulfilled, even with your toughest specifications

o Ensure efficient assembly, a faster production line, lower downtime costs and reduced operating costs

o Experience fewer customer complaints, recalls and breaks

o Specify and design faster, easier and more cost-effectively

o Get a knowledgeable response to your needs before, during and after manufacture

o Get it done right the first time and every time, because ceramics is all we do, and we do it well

"It was not that long ago that our ceramic supplier closed their operations and we were scrambling to find an alternative. When Apogee emerged as a possible supplier, we had our reservations, but soon we became convinced that you were up to the challenge. Since this time, you have delivered a quality product, at fair market prices in a timely manner. I wish you continued success and look forward to working together into the future."

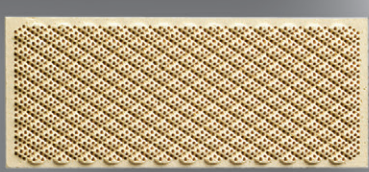
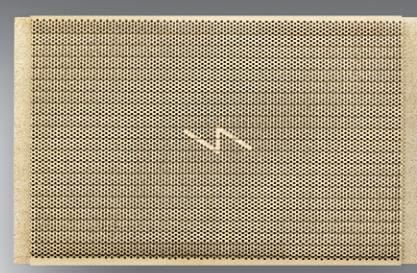
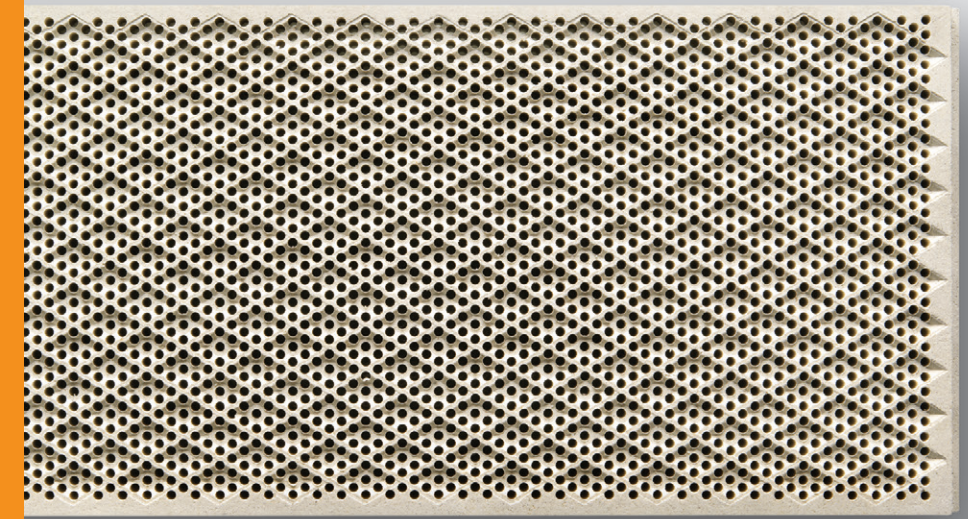
Joseph A. Wortman – VP & Chief Operating Officer, Detroit Radiant Products

Apogee CERAMIC PLAQUES

An engineered balance of thermal shock resistance, quick heat response, quality and mechanical strength.

- o Engineered open area
- o Porosity greater than 50%
- o Cordierite-based ceramic material
- o Non-corroding, rust-resistant and will not split like other conventional steel and tube burners
- o Unique design that is exceptionally strong, dimensionally stable and long-lasting
- o Various radiant surface patterns & cell configuration
- o Low thermal expansion co-efficient
- o Quick heating and uniform glow
- o Engineered to withstand temperatures of up to 1150°C (2100°F)

Choose from standard, or custom engineered and built-to-suit designs.



"It has really been a breath of fresh air to deal with your company. We found other suppliers to be very difficult and not very customer-oriented. Lead times were ridiculous and expediting orders was impossible. We gave your company our schedule and you met it, and accepted our schedule changes with great co-operation. We have not had any tile issues since your company started up, and your people have been wonderful to deal with."

Rob Keaton – President, Product Solutions Inc.

Apogee TECHNICAL CERAMICS

Exceptional ability to withstand continuous repetitive cycle for applications requiring strength, resistance to wear and thermal stability.

- o Excellent dimensional stability
- o Superior strength, wear-resistance and excellent thermal stability
- o Custom-engineered shape of any geometry, as well as formulations
- o Cost-effective prototyping capabilities
- o High-purity alumina and stabilized zirconias engineered to withstand temperatures of 1700°C and 2400°C (3090°F and 4350°F), respectively

Choose from standard, or custom engineered and built-to-suit designs.



"Apogee has consistently provided us with the very highest quality tile and exceptional delivery performance. You saved the performance of our product line at a time when we were faced with lower-quality alternatives."

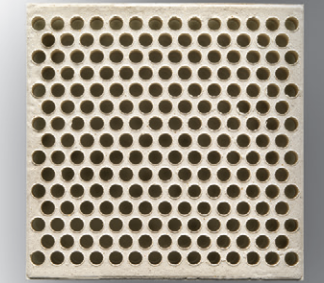
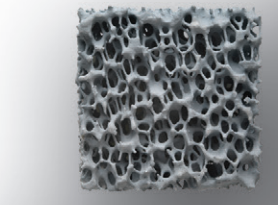
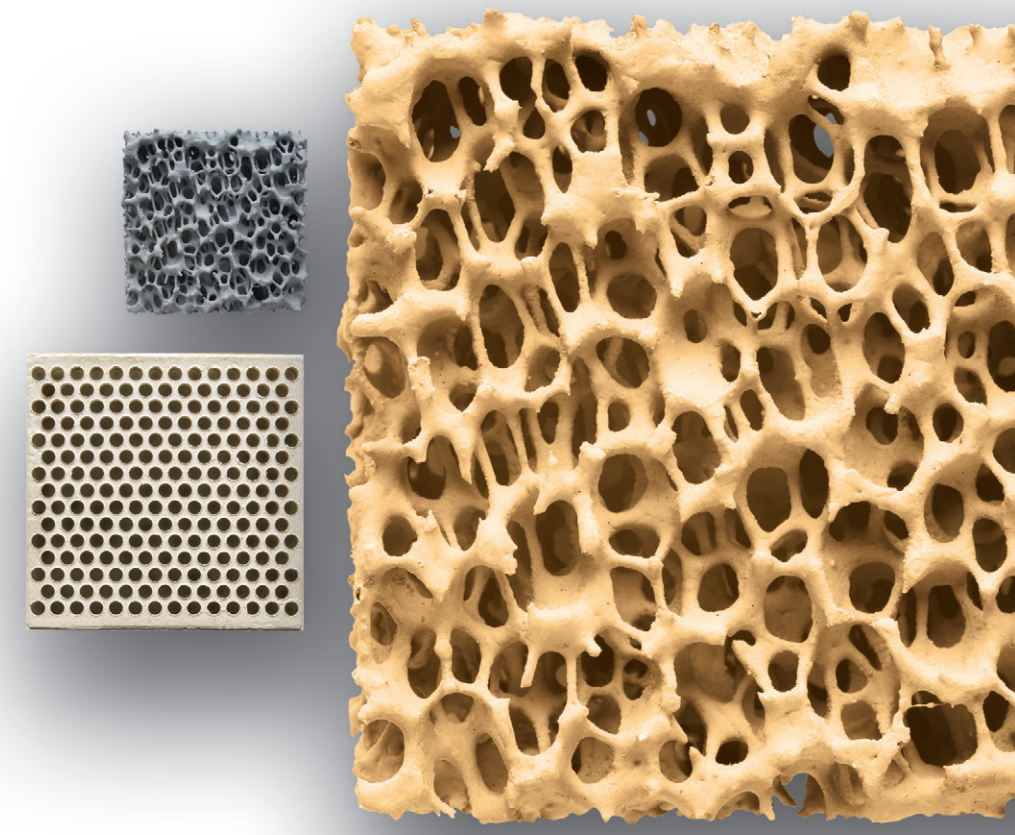
Martin Brice – Vice-President, Gas Fired Products

Apogee FOUNDRY PRODUCTS

High-performance solutions for severe casting applications.

- o Cellular pressed or reticulated filters engineered to suit
- o Removes dross, slag and other impurities
- o Filtering efficiency
- o Premium strength (hot and cold)
- o Controlled flow rate
- o Withstand thermal shock
- o Dimensional stability
- o Reduced foundry operating costs
- o Well-suited for sand, shell and investment casting
- o Engineered to withstand temperatures of up to 1650°C (3000°F)

Choose from standard, or custom engineered and built-to-suit designs.



"We have been using Apogee since their startup and they have been a very pleasant surprise for us after 25 years of sourcing ceramic radiants from around the world.....outstanding service, quality, technical support and most importantly, personal attention to our needs. We intend for Apogee to be our primary source for many years to come."

Jon K. Lam – Purchasing Manager, DESA Retail Heating