

Waterjet Edge



Cognitive Insights Newsletter



From the Desk of 2Do

The architecture and construction industry is evolving rapidly, where design, sustainability, and precision are becoming equally important. From iconic buildings and smart cities to luxury interiors and heritage restoration, projects today demand manufacturing technologies that can transform creative ideas into reality without compromising quality.

Waterjet cutting is emerging as one of those enabling technologies. Its ability to precisely process natural stone, porcelain, glass, metals, and composite materials is creating new possibilities for architects, designers, fabricators, and contractors alike.

In this edition of 2Do Waterjet Edge, we explore how Architecture, Construction, and Interior Design are creating new opportunities for the waterjet ecosystem through industry intelligence, stakeholder insights, and practical business perspectives. As architectural possibilities expand, so do the opportunities for the waterjet industry.

Industry Intelligence

Architecture & Construction: Shaping the Next Growth Market for Waterjet Cutting

Architecture today is about much more than constructing buildings. It is about creating spaces that inspire, perform, and leave a lasting impression. From luxury residences and commercial developments to airports, hospitals, hotels, museums, and public infrastructure, every project is expected to combine functionality with distinctive design.

This evolution is changing the way architects, designers, material suppliers, and fabricators collaborate. Natural stone, porcelain, architectural glass, decorative metals, and composite materials are increasingly being used to create unique spaces, bringing new expectations for craftsmanship, flexibility, and finish quality.

Waterjet cutting is helping make many of these designs possible.

How the Architectural Ecosystem is Evolving

Architects & Interior Designers

Design today is about individuality. Whether it's a signature marble floor, decorative metal screen, artistic glass partition, or custom wall feature, designers are looking for greater creative freedom to bring their concepts to life.

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Stakeholder Spotlight



Pokarna Limited: Adding Value Through Architectural Stone Solutions

Natural stone has long been a defining element of architecture, valued for its durability, elegance, and timeless appeal. Today, architects are using granite, quartz, and engineered stone in increasingly creative ways, from feature walls and flooring to countertops, façades, staircases, monuments, and public spaces. This growing emphasis on customized design is driving demand for advanced fabrication capabilities.

One of India's leading exporters of premium stone products, Pokarna Limited has built a strong reputation by supplying natural granite and engineered quartz surfaces to projects across the world. Its focus on quality, innovation, and value-added processing reflects the evolving expectations of modern architecture, where materials are no longer simply installed—they are designed to become integral elements of a space.

Their state-of-the-art Quartz unit at Telangana facility is equipped with the most advanced Bretonstone technologies and is spread over 160,000 square meters and has a built-up area of approximately 60,000 square meters. It's a smart factory with several robots and other high levels of process automation for supporting a wide range of Industry 4.0 applications and state-of-the-art fabrication division equipped with disc and waterjet cutting machines, CNC stoneworking centers, edge polishers and other machines for ensuring maximum speed and precision in fabrication. Their production capacity is used mainly to produce super jumbo size 347 x 201 cm and jumbo size 330 x 165 cm slabs. The unit helps PESL meet the growing requirements of its customers located across North America, Europe, Middle East and India

For the waterjet ecosystem, this evolution creates significant opportunities. Intricate inlays, curved profiles, medallions, custom signage, and decorative stone features all require fabrication methods that preserve the material's natural beauty while achieving the designer's vision. As demand for bespoke architectural elements continues to grow, stone processors and fabricators equipped with advanced cutting capabilities are well positioned to support this expanding market.

Pokarna Limited supplied Golden Dream granite for exterior façade of Conrad Hotels & Resorts brand, a part of Hilton Worldwide in Bangalore. According to Manish Jain of Pokarna, Golden Dream was chosen for its vivid gold color pattern and because it is an exclusive color offering of Pokarna. "We submitted a lot of colors as samples," he said. "Since the quantum was large and the timeframe was short, it was zeroed down to a few colors. Because of its color, pattern and consistency along with exclusivity with Pokarna, the supply could be controlled without deferring the deadline, and hence, Golden Dream was selected."

2Do Insight

Behind every architectural landmark is a network of material suppliers, fabricators, designers, and installers. Understanding how these stakeholders collaborate helps waterjet businesses identify where new opportunities begin, often long before construction starts.

Source : www.pokarna.com , www.stoneworld.com

Case of the Month

Compressive Strength Impact on Cut Depth of Granite During Abrasive Water Jet Machining

Abstract

Background: Compared to the conventional method of machining granite, abrasive water jet machining (AWJM) offers several benefits, including flexible cutting mechanisms and machine efficiency, among other possible advantages. The high-speed particles carried by water remove the materials, preventing heat damage and maintaining the granite's structure.

Methods: Three types of granite with different compressive strengths are investigated in terms of the effects of pump pressure (P), traverse speed (T), and abrasive mass flow (A) on the cutting depth.

Results: The results of the study demonstrated that the coarse-grained granite negatively affected the penetration depth, while the fine-grained granite produced a higher cutting depth. The value of an optimal depth of penetration was also generated; for example, the optimum depth obtained for Black Galaxy Granite, M1 (32.27 mm), was achieved at $P = 300$ MPa, $T = 100$ mm/min, and $A = 180.59$ g/min. **Conclusions:** In terms of processing parameters, the maximum penetration depth can be achieved in granite with a higher compressive strength.

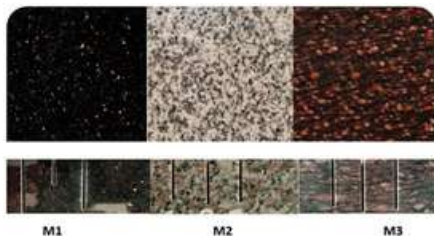


Illustration of the experimental granite.

M1: Black Galaxy Granite,
M2: G602 Granite, &
M3: Cats Eye Granite.

by

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CLICK: Download their research paper as a pdf

Source : mdpi.com

Ask an Expert



Q: When should a waterjet fabricator get involved in an architectural project?

A: Most fabricators become involved only after drawings are finalized and materials are ready for cutting. By then, design decisions have already been made, limiting opportunities to add value.

Businesses that engage earlier in the project lifecycle can contribute to material selection, design feasibility, fabrication planning, and installation efficiency. This collaborative approach not only reduces costly redesigns but also builds stronger relationships with architects, designers, and contractors.



How Early Involvement Creates Value

Project Stage	How the Fabricator Adds Value
Design	Advises on manufacturability and material behaviour
Material Selection	Suggests suitable materials and cutting methods
Fabrication Planning	Optimizes layouts, reduces waste, improves efficiency
Installation	Delivers components that fit accurately, reducing on-site modifications

Source : [2Do Consultancy](https://2doconsultancy.com).

Marketplace & Innovations

Emerging Materials Reshaping Modern Architecture

Introduction

The architectural landscape is constantly evolving, driven by advances in materials that offer improved durability, sustainability, and design flexibility. As architects and developers seek to create distinctive spaces, the demand for innovative surface materials and fabrication techniques continues to grow.

Several materials are rapidly gaining popularity across residential, commercial, and infrastructure projects, creating new opportunities for fabricators who can adapt to changing market requirements.

Large-Format Porcelain Slabs

Increasingly used for façades, countertops, flooring, and wall cladding due to their strength, low maintenance, and seamless appearance.



Sintered Stone

Engineered to withstand heat, scratches, and UV exposure, making it suitable for both interior and exterior architectural applications.

Architectural Metal Screens

Decorative aluminium, stainless steel, and corten steel screens are becoming popular for façades, shading systems, and feature installations.



Engineered Quartz Surfaces

Widely specified for kitchens, commercial interiors, healthcare facilities, and hospitality projects due to their durability and design consistency.

Market Insight

As these materials become mainstream, fabricators who invest in understanding their processing requirements and applications will be better positioned to serve architects, designers, and builders looking for customized solutions.

Source : [2Do Marketing](#).

Training & Events



- **Event:** World of Facades (July 17, Chennai, Tamil Nadu) ([World of Facades , Chennai](#))
Click here to view > > [Last event full video](#)
- **Expo:** AMTEX , Asian Machine Tools Exhibition 2026 (July 24-27, Greater Noida , Uttar Pradesh) (<https://www.amtex-expo.com/>)
- **Expo:** MFIndia 2026 (Aug 27-30, Chennai, Tamil Nadu)(<https://www.mfindia.net>)
- **Event:** World of Facades (Aug 27, New Delhi) ([World of Facades Delhi](#))
Click here to view > > [Last event full video](#)
- **Expo:** Tools and Equipment Expo (Sept 17-19, New Delhi) (<https://toolsequipmentexpo.com>)
formerly Cutting & Welding Equipment Expo

2Do Tip : Trade shows are not just about selling they're about understanding where the market is heading and building relationships that create future opportunities.

2Do Corner

From Insight to Impact



Every edition of 2Do Waterjet Edge is built around one objective , to help businesses identify emerging opportunities within the waterjet ecosystem. Turning those insights into measurable growth, however, requires the right strategy, market understanding, and execution.

Whether you're looking to enter new markets, strengthen your brand, develop strategic partnerships, improve market visibility, or accelerate business growth, **2Do Marketing Solutions** brings together integrated expertise in **Marketing, Business Development Management, Consultancy, Design, Publishing, Printing & Packaging, and Sales Support** to help businesses create lasting value.

If this edition has inspired a new idea, project, or business opportunity, we'd be happy to explore it with you.

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