

Urethane foam insulation for spa manufacturing



CASE STUDY

Challenge

Dimension One Spas® (D1 Spas) is a high production spa manufacturer of portable hot tubs, home spas and aquatic fitness systems. With a 135,000 square foot manufacturing plant and volume of 4000 pounds of urethane sprayed weekly, the standard heaters were not efficient enough to bring the foam to the proper heat range for atomizing the spray foam for filling spa cavities. The manufacturing process consisted of a GlasCraft® Mini II air operated foam proportioner which required preheaters to condition the material prior to use.

Solution

D1 Spas accepted an offer to test the new Graco Reactor® A-25 air operated sprayer. The proportioner was installed with 50 feet (15.2 m) of heated hose; a 10 foot (3 m) heated whip hose and Fusion® AP spray gun. The installation team recommended running the unit without preheaters to see if efficiencies could be increased.

Results

The A-25 sprayed flawlessly without preheaters, exceeded the production volume of Mini II, and eliminated preheaters from the manufacturing process. Though D1 Spas had yet to determine the cost savings of eliminating 40 gallon electric preheaters, efficiencies have begun to be realized. As Production Manager, Dave Gordon has stated, "It's a work horse and we're pumping 4750 pounds per week". Overall, they found the equipment to be quiet, compact, simple, and easy to maintain.



*Graco Reactor® A-25
air operated sprayer*

SPECIFICATIONS

END USER

Dimension One Spas (D1 Spas)

INDUSTRY

Spa Manufacturing

MATERIAL SUPPLIER / DISTRIBUTOR

BASF / Diamond Liners

APPLICATION

Spray Polyurethane Foam

Material Specs:

- ELASTOPOR® P1001U ISO
- ELASTOPOR H 17891R
Resin Component
- ELASTOPOR P 17891R /
ELASTOPOR® P1001U is a two-
component, polymeric MDI based
system, utilizing water as sole
blowing agent designed to meet
UL® 94HBF requirements for
use in void fill applications.

Typical Properties

- Ratio: 1:1
- Viscosity at 77°F (25°C)
- ISO: 200 cps
- Resin: 540 cps
- Colors: – ISO: Dark brown liquid
– Resin: Amber liquid
- Chemistry - Urethane Foam

GRACO EQUIPMENT*

- Graco Reactor® A-25

CONFIGURATION

- Heat zones: 6000 watt
pre-heater, heated hose
- Hoses
 - 3/8 in x 50 ft (9.5 mm x 15.2 m)
heated hose
 - 10 ft (3 m) heated whip hose

Accessories:

- MD2 Dispense Valve with
10:1 nose poppet valve
- Pressure transducers
- Need at least a 32 element
static mixer or a combo mixer
for optimum mixing

Delivery Method:

- Fusion AP Spray Gun

**Exact equipment configuration will vary and depend on factors such as rate of output, length and size of hoses, bead size desired, and container sizes.*

