



INSIGHT

ISSUE NO. 3

A technical newsletter by Rath, Rath & Johnson, Inc. for the construction industry.

“Insight: to see into and understand; an item of knowledge gained by this power.”

INSIDE

Communications

Making a technical concept clear and understandable

Demonstrative Models

The right model can be worth a thousand pictures



Communications

A good idea serves little purpose if nobody can understand it. Engineers and architects are often accused of forgetting this simple axiom, finding it easier to organize and present their thoughts in jargon understandable only by other technical people. **Audiences such as board members, jurors, arbitrators, management personnel, or fellow engineers, have come to expect a clear, understandable presentation** of ideas and findings, and have little tolerance for techno-babble or arm-waving. With the computer tools and techniques currently available to efficiently create graphics, there is no reason to accept less. Inspired by Ross Perot, even President Clinton has used graphs, flip charts and photos to help make a point.

Making a technical concept clear and understandable can be as important as the underlying analysis, and requires the use of specialized tools just as an engineering analysis does. Graphic forms - drawings, data plots and graphs, symbols, renderings, photo documentation and check lists - are a part of engineering communications and visualization of the physical world. These graphic forms can be enhanced and simplified using computers and video. Combined with physical objects or models, clear and simple graphics provide the way to communicate technical concepts to a non-technical audience in a familiar and unintimidating manner.

Here are just a few examples of graphics prepared by RRJ to communicate technical concepts:

- Color-coded drawings to compare design to as-built conditions.
- Color drawings to illustrate water leakage paths.
- Calendar charts to show a critical sequence of events.
- Text enlargements with highlights showing relevant portions of codes and standards.
- Color drawings with phantom surfaces so that concealed conditions can be shown.
- Video animation of measurements so that response over time can be followed.
- Sequential drawings showing how a component is assembled.
- Posters, combining photos, annotation and sketches.

-Robert J. Kudder, S.E.



Demonstrative Models

If a picture is worth a thousand words, **the right model can be worth a thousand pictures.**

Whether in the boardroom or the courtroom, some concepts simply do not lend themselves to two-dimensional imaging. Scale models allow the representation of three-dimensional concepts in a way people are used to seeing them - in three dimensions. Rather than requiring the audience to infer the spatial relationships between the various parts of a complex topic, RRJ's model shop can produce models that allow the viewer to clearly see how all of the parts fit, or don't fit, together.

Small scale models can be used to:

- Display the overall layout and arrangement of an entire building or structure.



Half-scale model with removable parts.

- Show the locations of investigative openings and tests.
 - Provide a location key for other demonstrative items such as photographs and graphical details.
 - Demonstrate the aesthetic effects of proposed building repairs or modifications.
- Models in larger scales such as ¼, ½ and full size can:**
- Show as-built conditions using actual construction materials.
 - Demonstrate water and air infiltration paths through complicated joints and intersections between building components.
 - Provide comparisons between as-built and as-designed conditions.
 - Present repair concepts.
 - Illustrate required construction procedures and sequences by utilizing removal parts.

-Kurt R. Hoigard, P.E.



Small scale architectural model.