Knovel

Leveraging Electronic Resources

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What Knovel's Academic Customers are saying

Challenges

- Providing quality information resources for faculty and students despite declining budgets
- Supporting and training a virtual user population; and for corporations it is global
- Managing a proliferation of vendors and vendor platforms
- Fostering information literacy and problem solving capabilities among students
- Reducing project errors and rework cost's resulting from inaccurate or difficult to find information.

Create the Need for

- Efficiency of information purchases
- Models focused on information provision
- A manageable number of services to promote and focus upon
- Resources that match what students will require to problem solve in the workplace
- Tools that make finding engineering data easier

Our vision

About Knovel

- **Our Users:**

  Engineers, professors, librarians, researchers and engineering students

- **Our Product:**

  Web-based application integrating carefully curated, continuously updated technical information with engineering focused analytical and search tools

- **Our History:**

  For over 10 years Knovel has been helping engineers at the world's top universities and largest corporations efficiently get answers to their technical questions

- **The Value we bring:**

  - Knovel brings together trusted content from 70+ leading engineering publishers and societies
  - Knovel makes it easier to find and work with technical reference information
  - Knovel content is *the go-to source* for engineering reference information
  - **92%** of Knovel user estimate time to complete their tasks would increase ~10% without Knovel

A distinguished customer list

- **> 300** Universities in 40 countries
- 62% of Top 50 Universities in the World
- 12 of Top 15 US Engineering Schools
- **>300** Corporate & Government Customers
- **73** of Fortune 500 companies
- **Above 90%** renewal rate

Regionally

- **Charles University**
- **Slovak Technical University**
- **Unipetrol**
- **Technická Univerzita v Košiciach**
- **National Technical Library**
- **Centre of Scientific and Technical Information**

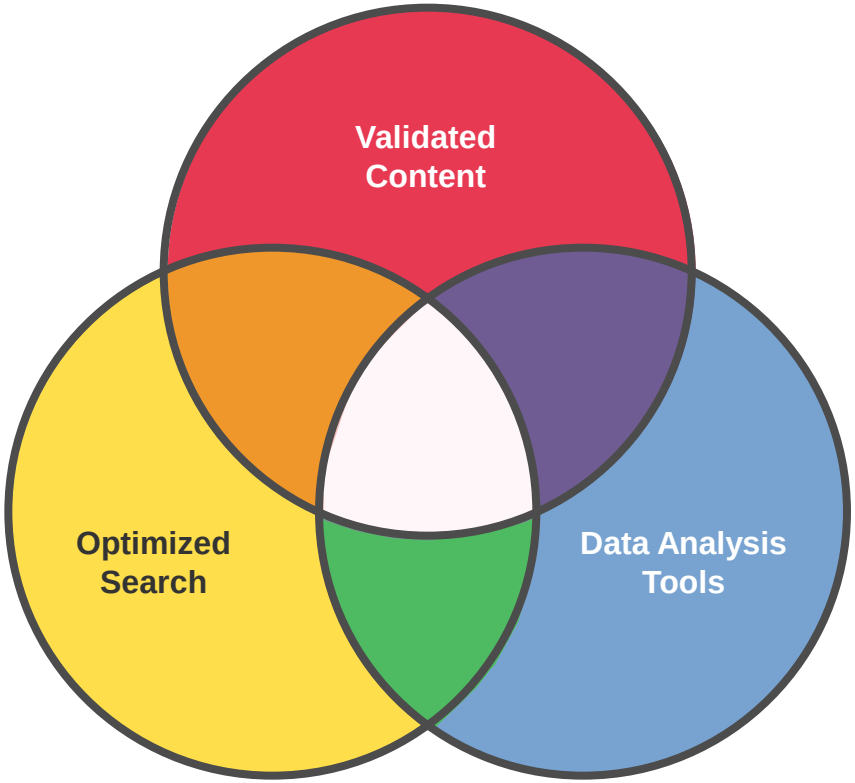
Worldwide

THE UNIVERSITY OF CHICAGO
THE UNIVERSITY OF MELBOURNE
PrincetonUniversity
CORNELL
McGill
ETH ZURICH
UCL
UNIVERSITY of TORONTO
STANFORD UNIVERSITY
Carnegie Mellon
The University of Sydney
MANCHESTER 1824
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
The University of Hong Kong
THE UNIVERSITY OF AUCKLAND
Yale University
香港科技大學 THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY
Imperial College London
MONASH University
UNIVERSIDAD AUTÓNOMA METROPOLITANA Casa abierta al tiempo
UNIVERSITY OF BIRMINGHAM
UPPSALA UNIVERSITET
HELSINKI UNIVERSITY OF TECHNOLOGY
HOME TO ISRAEL'S NOBEL SCIENTISTS TECHNION
USTC University of Science and Technology of China
DTV Danmarks Tekniske Videncenter
KAIST Korea Advanced Institute of Science and Technology

Notable industry customers

Integration of three key elements

Knovel is a **web-based application** integrating **technical information**
with **analytical & search tools**
which your **users can trust**



Trusted Content from Relevant Sources

Validated Content

- Established science sourced from recognized > 70 societies & publishing partners
- Stringent selection process driven by customer requests and vetted by industry experts
- 7 member Editorial Advisory Board provides deep engineering experience & leadership ensuring depth & breadth of content meets customer needs

Search Optimized for Engineers

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Search Optimized for Engineers

- Finds data, hidden in tables, graphs, and equations
- "Understands" engineering language
- Automatically performs unit conversion
- Allows numeric range search
- Performs multi-variable search

Data Analysis Tools integrated into engineering workflow

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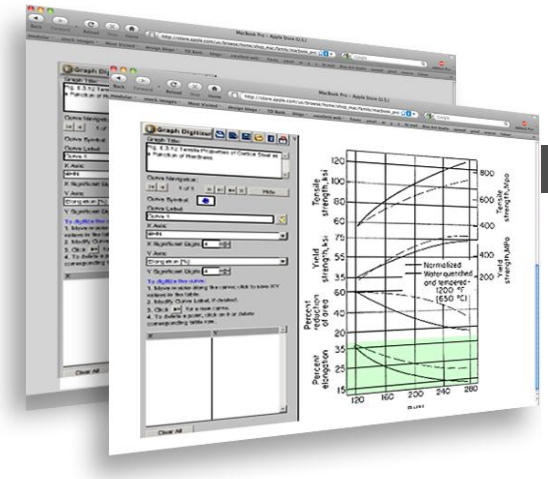


Data Analysis Tools integrated into Engineering Workflow

- Easy-to-use tools for initial calculations and information validation
- More than 70,000 interactive tables, graphs and equations
- Customize and manipulate data as easily as sorting a spreadsheet
- Digitize one or more curves by plotting points on a graph
- Data Export preserves format and documents data source (Excel, MathCAD)

Advantages of Knovel

Efficiency

- Over 70 leading engineering societies and publishers – One platform
- Select topic areas relevant to your institution
- Content continuously added to collections

Curation

- Industry experts drive content acquisition
- Coverage maximized, duplication minimized
- Choosing only the best from 70+ partners

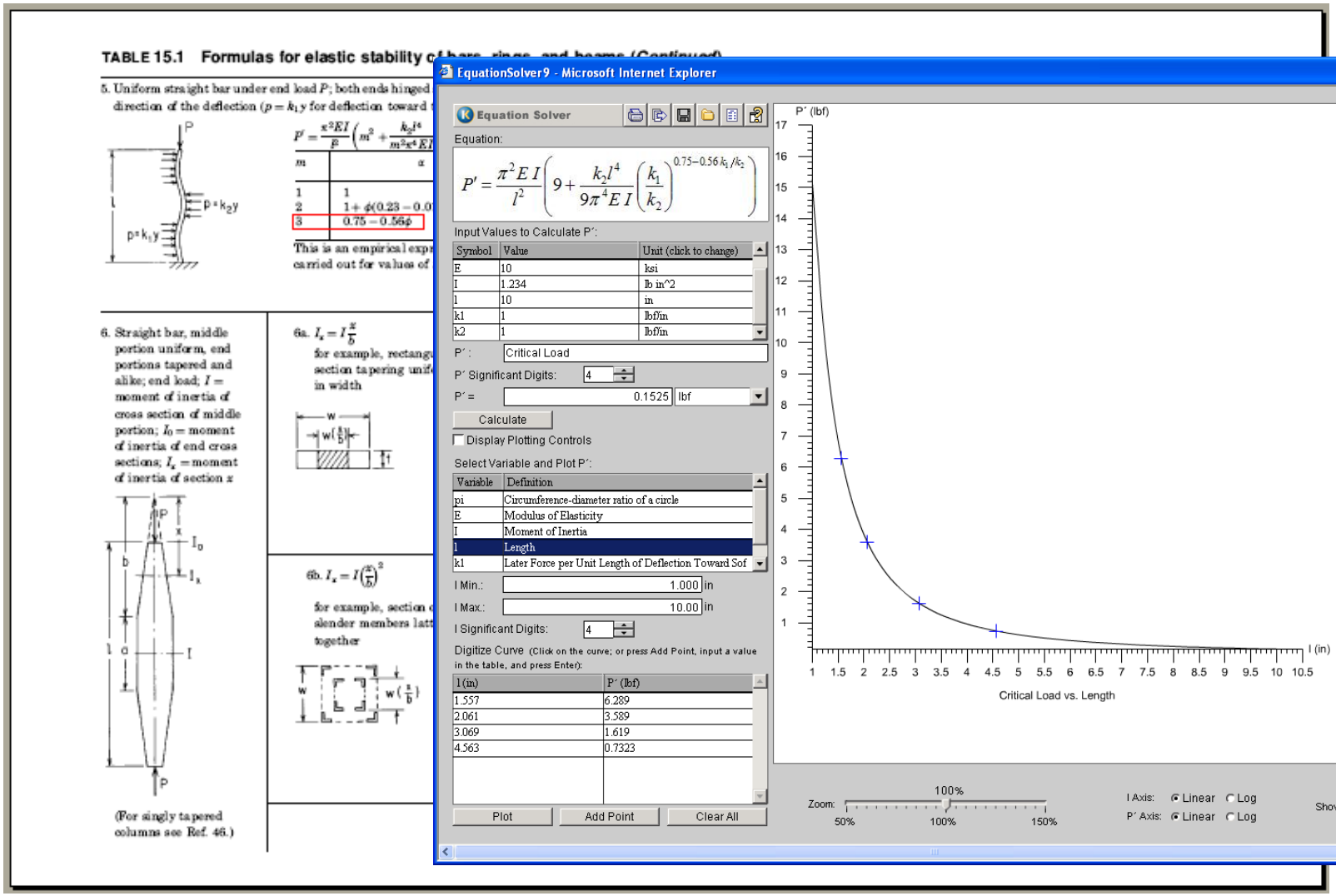
Discoverability

- Numeric search
- Property search
- Automatic unit conversion
- Data buried in charts and graphs

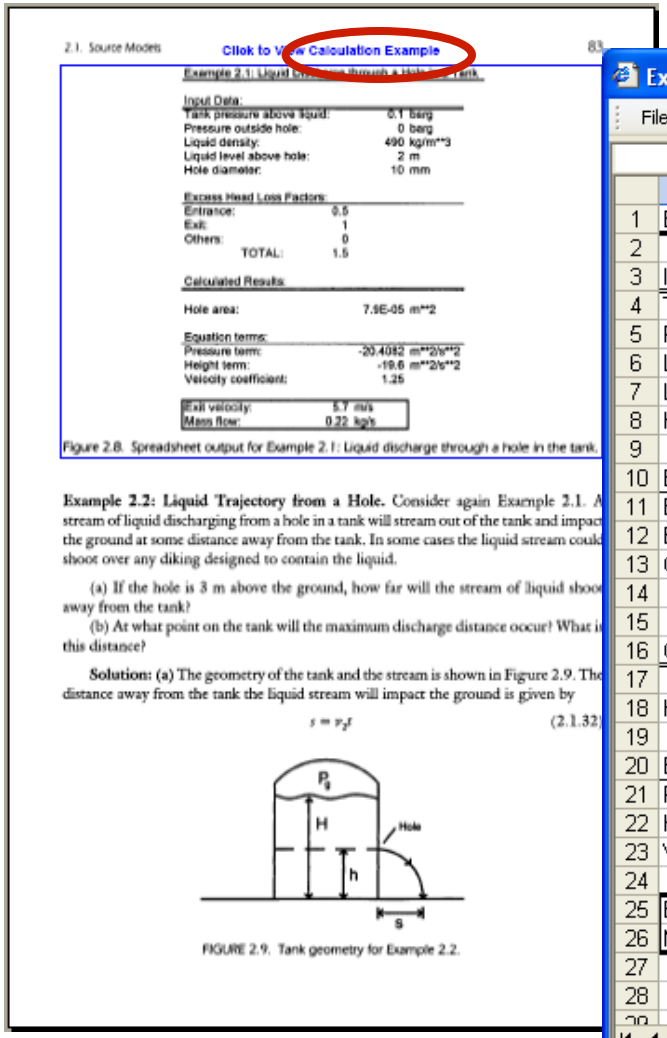
Usefulness

- No other engineering content is as interactive
- Manipulate data in tables
- Plot points in charts and graphs
- Plug data in live equations

Data Analysis Tools EQUATION SOLVING



Data Analysis Tools EQUATION SOLVING - EXCEL



2.1. Source Models — Click to View Calculation Example — 83

Example 2.1: Liquid Discharge through a Hole in a Tank

Input Data:

Tank pressure above liquid:	0.1 barg
Pressure outside hole:	0 barg
Liquid density:	490 kg/m**3
Liquid level above hole:	2 m
Hole diameter:	10 mm

Excess Head Loss Factors:

Entrance:	0.5
Exit:	1
Others:	0
TOTAL:	1.5

Calculated Results:

Hole area:	7.9E-05 m**2
Equation terms:	
Pressure term:	-20.4082 m**2/s**2
Height term:	-19.6 m**2/s**2
Velocity coefficient:	1.25
Exit velocity:	5.7 m/s
Mass flow:	0.22 kg/s

Figure 2.8. Spreadsheet output for Example 2.1: Liquid discharge through a hole in the tank.

Example 2.2: Liquid Trajectory from a Hole. Consider again Example 2.1. A stream of liquid discharging from a hole in a tank will stream out of the tank and impact the ground at some distance away from the tank. In some cases the liquid stream could shoot over any diking designed to contain the liquid.

(a) If the hole is 3 m above the ground, how far will the stream of liquid shoot away from the tank?

(b) At what point on the tank will the maximum discharge distance occur? What is this distance?

Solution: (a) The geometry of the tank and the stream is shown in Figure 2.9. The distance away from the tank the liquid stream will impact the ground is given by

$$s = v_x t \qquad (2.1.32)$$

FIGURE 2.9. Tank geometry for Example 2.2.

Example 2.1 Liquid Discharge through a Hole in a Tank - Microsoft Internet Explorer

File Edit View Favorites Tools Help

A31

	A	B	C	D	E	F	G	H	I
1	Example 2.1: Liquid Discharge through a Hole in a Tank								
2									
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27									
28									

EX2-1

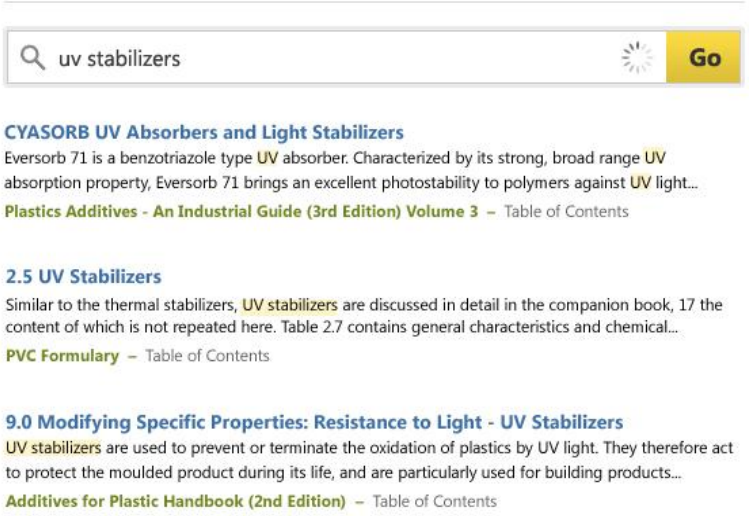
We're Building a New Knovel, Ground-Up

- **S**peed Performance is #1. Replication
- **W**eb 2.0 Collaboration, Faceted, Semantic
- **I**ntegration API, Sharepoint, federation, etc.
- **G**oogle-like You don't have to be a librarian to get good results
- **E**nhance Deploy enhancements fast
- **D**efect Correction Fully documented code base, automated testing, fix problems fast

2011: Beyond the New Platform Q3

API supports integration with customer/ partner enterprise platform

- e.g. Sharepoint, Federated Search, Invention Machine



Localization: three languages by Q3

Customer feedback

"Makes a large amount of important reference information accessible to students and faculty remotely, providing ability to search a wide array of relevant sources simultaneously. Makes their research more efficient and productive."

- Louisiana State University

"Rather than spending hours using search engines like Google to obtain raw data—or no data at all—students using Knovel obtain relevant results in minutes, helping them solve the practical problems they will encounter in industry."

- Dr. Vladimir Genis,
Assoc. Prof & Program Director Applied Engineering
Drexel University

"I find Knovel to be unique in its capacity to be dynamic and interactive."

- Datasets Librarian, RMIT University

"We incorporate Knovel into our coursework because many of our students will undoubtedly encounter it when they enter the workforce."

- Dr. Robert Malloy, Prof and Chairman, Plastics Engineering Dept
University of Massachusetts, Lowell

"Knovel is the first place we go to answer chemistry, engineering, and materials related questions. I almost always find what I'm looking for because I'm able to search across so many different sources and I know that the sources within Knovel are of high quality and reliable."

- *Chemistry & Chemical Engineering Librarian*,
University of Minnesota

"Since learning of Knovel, I have spent less time finding and verifying sources and more time learning important course material; which is what I'm at school to do."

- Biological Engineering Student Cornell University

Knovel: Know More.Search Less.

Questions

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www.knovel.com

Thank You