

Knowledge Collections

Delivered on Engineering Workbench™

PCNs: Various

Tech Spec

Knowledge Collections by IHS Markit, delivered on Engineering Workbench™, is the most comprehensive library of trusted, authoritative engineering and technical reference content, aggregated in one place, to help engineers and other technical professionals make the best decisions.

With Knowledge Collections, users gain access to the critical knowledge they rely on for all stages of the engineering and project lifecycle – from ideation through production. Knowledge Collections features partnerships with leading technical publishers such as McGraw-Hill, Wiley, Maney, Springer, and many others.

Knowledge Collections is delivered on Engineering Workbench, a unified technical knowledge platform that accelerates technical research and problem solving through single-point access to critical information resources, combined with next-generation search analytics and specialized engineers tools.

Types of Data in HS Knowledge Collections: Applied Engineering Reference Books & Manuals

Knowledge Collections provides access to a comprehensive library of engineering and technical eBook titles, including manuals, handbooks, dictionaries and more, covering all engineering disciplines from leading technical publishers.

Leading publishers with eBook content in Knowledge Collections include:

- AMACOM
- American Oil Chemists Society (AOCS)
- ASM International

- ASTM International
- American Water Works Association (AWWA)
- Chemical Publishing Company
- Clarion, Inc.
- CRC Press
- DEStech Publications, Inc.
- Dunedin Academic Press
- Hobart Institute of Welding Technology
- Institution of Engineering & Technology (IET)
- Industrial Press, Inc.
- International Society of Automation (ISA)
- IT Governance Ltd.
- Maney Publishing
- McGraw-Hill
- Oxford University Press
- PACKT Publishing, Inc.
- SAE International
- SPIE – International Society for Optics & Photonics
- Springer
- Synapse Information Resources Inc.
- Technology Perspectives
- Trans Tech Publications, Inc.
- Wiley – John Wiley & Sons
- World Scientific Publishing Company

The 10,000+ engineering and technical titles in the Knowledge Collections are distributed among more than a dozen Discipline Collections and dozens of Subject Area collections.

- **Discipline Collections** provide comprehensive reference information related to a broad topic or

industry, such as Aerospace Engineering, Biomedical Engineering, Chemistry and Chemical Engineering, Civil Engineering, and so forth (full listing below).

- **Subject Area Collections** provide more granular coverage of a specific theme, such as Aerodynamics, Aerospace Engines and Propulsion Systems, Aerostructures, and so forth (full listing below).

By grouping Knowledge Collections content into Discipline and Subject Area Collections, IHS Markit customers can intuitively select the content that best aligns with the reference content requirements of their engineers, researchers or scientists; aligns with their budget; and complements their current Standards subscriptions.

- For example, a major Aerospace manufacturer might require subscriptions to the Aerospace Engineering, Electrical Engineering, Mechanical Engineering, and Metallurgy and Materials Science Discipline Collections.
- By contrast, a small or mid-market supplier providing avionics components to that same Aerospace manufacturer might require subscriptions to the Avionics and Radar, Electrical Equipment, and Electronic Devices Subject Area Collections.

The full list of Disciplines (**bold text**) and Subject Areas (*bulleted text*) follows:

Aerospace Engineering Discipline

- Aerodynamics
- Aerospace Engines and Propulsion Systems
- Aerospace Systems Engineering
- Aerostructures
- Aircraft Stability and Control
- Avionics and Radar
- Materials for Aerospace Construction
- General Aerospace Engineering

Automotive Engineering Discipline

Biomedical Engineering Discipline

- Bioimaging and biomedical optics
- Biological Engineering
- Biomaterials
- Biomechanics and biotransport
- Nanobiotechnology
- General Biomedical Engineering

Chemistry and Chemical Engineering Discipline

- Analytical Chemistry
- Biochemistry, Biochemical and Biomolecular Engineering
- Catalysis and Reaction Engineering
- Coatings

- Environmental Chemistry
- Equipment for the Chemical Industry
- Fluid Dynamics
- Heat and Mass Transfer
- Inorganic Chemicals
- Membrane and Separation Technology
- Organic Chemicals
- Pharmaceuticals and Biotech
- Physical Chemistry
- Plastics, Polymers and Elastomers
- Process Control and Systems
- Thermodynamics
- General Chemistry and Chemical Engineering References

Civil Engineering Discipline

- Architectural Engineering
- Airport Engineering
- Construction Management
- Construction Materials
- Green Building and Sustainability Engineering
- Facility and Maintenance Engineering
- Geotechnical Engineering
- Structural Engineering
- Water Supply and Sewage Systems
- General Civil Engineering References

Computer Engineering Discipline

- Digital Communications and Networking
- Embedded Systems and Programming
- General Computer Engineering

Earth Sciences Discipline

- Atmospheric Sciences
- Geology
- Geophysics and Geochemistry
- Hydrogeology and Oceanography
- Minerals and Natural Resources
- Sedimentology and Soil Science
- General Earth Sciences

Electrical Engineering Discipline

- Alternative and Sustainable Energy
- Electrical Equipment
- Electrical Power Generation
- Electrical Safety
- Nuclear Engineering
- Power Transmission and Distribution
- Power Electronics
- General Electrical Engineering References

Electronics Discipline

- Controls and Control Theory
- Electromagnetics
- Electronic Devices

- Semiconductor and Electronic Component Manufacturing
- Nanotechnology
- Optics and Photonics
- Signal Processing
- Communications Engineering
- VLSI and Circuits: Embedded/Hardware Systems
- Sensors, Instrumentation and Measurement
- General Electronic Engineering

Engineering Management Discipline

- Business Ethics
- Decision Making, Leadership & Organizational Behavior
- General Engineering Management

Environmental Engineering Discipline

- Air Pollution Control
- Environmental Engineering
- Environmental Regulation and Compliance
- Remediation and Brownfield Development
- Waste Management
- Wastewater and Process Water
- Water Quality and Treatment
- General Environmental Engineering

Food Science Discipline

- Food Microbiology & Biotechnology
- Food Processing
- General Food Science
- Nutrition

Industrial Engineering Discipline

- Industrial Engineering, Systems Engineering, and Operations Research
- Mathematics and Statistics
- Project Management
- Quality Control and Reliability Engineering
- Six Sigma and Lean Management
- General Industrial Engineering

Industrial Safety Discipline

- Fire Protection and Safety
- Hazardous Materials Safety
- Occupational Safety and Industrial Hygiene
- Process Safety
- Security and Surveillance
- General Industrial Safety

Life Sciences Discipline

- Agricultural Sciences
- Animal Sciences
- Cancer
- Cosmetics and Dermatology
- Pathology
- Pharmacology

- Psychiatry and Neurology
- Respiratory and Cardiovascular Health
- Obstetrics and Gynecology
- General Life Sciences

Mechanical Engineering Discipline

- Automation
- Engineering and Product Design
- Fluid Mechanics and Heat Transfer
- Heating, Ventilation, Air-Conditioning & Refrigeration
- Manufacturing Engineering
- Mechanics
- Mechatronics and Robotics
- Shock, Vibration and Acoustics
- Strength of Materials
- Thermodynamics
- Tribology
- General Mechanical Engineering

Metallurgy and Materials Science Discipline

- Extraction and Production
- Functional Materials
- Materials Processing and Manufacturing
- Materials Testing and Characterization
- Materials Analysis, Modeling and Design
- Polymers, Composites and Specialty Materials
- General Metallurgy and Materials Science

Oil and Gas Engineering Discipline

- Corrosion Control and Antifouling (oil and gas)
- Environment, Health and Safety (oil and gas)
- Exploration and Production
- Petrochemicals and Petroleum Products
- Pipelines, Transport and Storage
- Refining and Processing
- General Oil and Gas Engineering

Software Engineering Discipline

- Embedded Software Development
- IT Project and Process Management and Governance
- Mobile and Web Applications
- Operating Systems
- Programming Languages
- Software Frameworks
- Software Testing
- General Software Engineering

Additional Reference Collections

IHS Markit offers additional reference books collections to meet customers' requirements for specialized content. Available collections include the ASTM eBook Collections, the Pressure Vessel Collection, and the Springer Collections.

ASTM eBook Collections

PCNs: KAC74 – KAC83

These collections contain subject area-specific manuals, guides and books that complement ASTM standards and other Knowledge Collections content. IHS Markit hosts the ASTM content, so no linking to the ASTM Digital Library is required. The available collections include:

- Civil Engineering
- Environmental
- Industrial Engineering
- Materials & Metallurgy
- Mechanical
- Petroleum
- Data Series
- General Manual
- General Monograph
- Test Monitoring Center General

Pressure Vessels Collection

PCN: KCPV

This collection includes more than 20 engineering titles covering topics related to the design, installation or operation of pressure vessels. Publishers include:

- ASM International
- Chemical Publishing Company
- DEStech Publications, Inc.
- Maney Publishing
- Oxford University Press
- Trans Tech Publications, Inc.
- Wiley

Springer Collections

PCNs: SPR01-SPR13

These collections provide access to robust collections of engineering titles and journal articles from Springer. The following Springer Collections are available:

- Engineering eBook Collection
- Aerospace Collection
- Automotive Collection
- Chemical Manufacturing Collection
- Consumer Packaged Goods Collection
- Electronics Collection
- Energy, Utilities & Environment Collection

- Finance, Business & Banking Collection
- IT & Software Collection
- Law Collection
- Materials & Steel Collection
- Oil, Gas & Geosciences Collection
- Telecommunications Collection

Engineering Workbench

Knowledge Collections are delivered on Engineering Workbench. Engineering Workbench is a unified technical knowledge platform that enables engineers, researchers, scientists and others to rise above the challenges associated with accessing critical technical information. The three components of Engineering Workbench are **Content, Analytics** and **Tools**.

Content: First, Engineering Workbench allows an organization to provide its technical workforce with single-source access to the must-have content they need to complete their projects, including eBooks, patents, journal articles, reports, design principles, and more. Engineering Workbench also can connect these professionals to internal content sources, fostering knowledge retention and discovery.

Analytics: Moreover, Engineering Workbench offers next-generation content analytics and search capabilities that allow technical professionals to quickly extract answers and insights from these disparate content sources, breaking down barriers to informed decision-making.

Tools: Finally, IHS Markit customers also have the opportunity to add advanced research, problem solving, and analytical tools to their Engineering Workbench environment, such as root cause analysis, technology and patent trend analysis, consumer insights, or intelligence. These tools have been designed by technical professionals, for technical professionals, so they inherently support the daily workflows of engineers, scientists and other knowledge workers.

As a result, engineers solve problems faster, researchers discover more efficient processes sooner, and product teams deliver innovations to market ahead of competition – driving growth, profitability and risk mitigation.

Personalization Features

Powerful personalization features available to users of Patent Intelligence include:

- **Saved Searches and Alerts** – Users can save queries for later use or schedule specified queries to run periodically and send an alert to a user-specified

email about new results. Saved queries can also be saved to the user's Home Page for convenient access, or linked to a project saved in the user's personalized workspace.

- **My Workspaces** – Provides a place for users to save, organize and share their research related to a project or topic of interest. For example, users can store bookmarks, citations and summaries related to a project, and this information will be represented by various "cards" in the workspace, allowing for easy access to frequently used information.

Together, these features allow users to tune their working environment to best suit their current project requirements or research needs.

Also Available in Engineering Workbench

Research Assistant

Research Assistant provides a highly efficient tool for navigating a large body of information and drilling down to specific answers. Employing Research Assistant is like having a subject matter expert work beside you, organizing search results and guiding you to the precise information you need within your content library.

Research Assistant offers access to advanced filters known as "Concept Lenses." The lenses break down information about a search term into dozens of different categories such as "Definitions," "Properties," "Advantages" and more. Tabular and visual tools for navigating the filtered results increase search speed and accelerate information workflows by quickly guiding you to the most relevant results.

Expert Index Collection

The Expert Index Collection, delivered on Engineering Workbench, allows engineers and others to discover answers across a comprehensive collection of over 75 million technical articles, publications, reports, design principles / best practices and more.

The content in the Expert Index Collection is provided by dozens of vetted, authoritative publishers, as well as IHS Markit sources, ensuring users have access to trusted content from the most widely respected content providers.

See separate information on the Expert Index Collection for more details on available content sources.

Patent Collection

The Patent Collection comprises more than 60 million patents, published in the original languages, fully searchable, with dynamic summaries available in multiple languages. Patents included:

- U.S. Granted Patents (USPTO): 1971–current
- U.S. Patent Applications (USPTO): 2001–current
- European Granted Patents (EPO): 1981–current
- European Patent Applications (EPO): 1988–current
- Great Britain Granted Patents: 1970–current
- Great Britain Patent Applications: 1979–current
- German Granted Patents: 1980–current
- German Patent Applications: 1970–current
- German Gebrauchsmusters (Utility Model): 1980–current
- French Granted Patents: 1985–current
- French Patent Applications: 1976–current
- Japanese Patent Abstracts (JPO): 1976–current
- Japanese Patent Applications: 1993–current
- Japanese Granted Patents: 1994–current
- Chinese Granted Patents
- Chinese Granted Patents for Utility Models
- Chinese Patent Applications
- Chinese Utility Model Applications
- WIPO PCT Publications (WIPO): 1978–current

Patent Intelligence

Patent Intelligence is a powerful graphical toolset that allows users to analyze technology trends and patent information based on the same set of more than 60 million patents included in the Patent Collection described above.

The patent analysis toolset helps researchers, engineers, and innovators understand the competitive landscape; discover new markets; spot influential trends, companies, and people; and stay on top of technology trends.

Engineers, scientists and other technical professionals can use Patent Intelligence to:

- Research technologies or companies
- Analyze patent references
- Find key people for a topic or industry

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