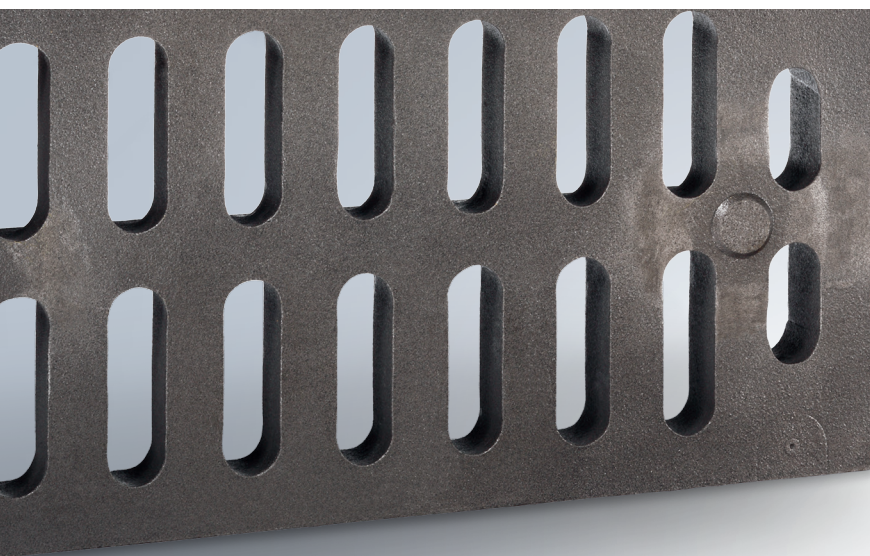




EXACTCAST™

Product Line Overview



Industry Leading Feeding Solutions for the Ideal Casting

ASK Chemicals is your comprehensive provider of premium feeding solutions. Renowned for quality & performance, our EXACTCAST™ sleeves & risers – based on patented technology – are hallmarks within the industry. Featuring innovative designs and unrivaled engineered formulas we've established a standard of excellence in the marketplace. Our leading exothermic options, for instance, offer superior efficiency alongside first-rate performance. With manufacturing capabilities in Europe, North America and Asia we guarantee strict dimensional accuracy, uniform composition and consistent quality.

As innovation leaders, ASK Chemicals prides itself on progressive product development via trending market demands. Our notable ecological feeding solutions are indication of this. From fluorine-free options to inorganic waterglass-bonded varieties our dedication to Eco-solutions is firm.

At ASK Chemicals we believe in taking a holistic approach that goes beyond traditional offerings. Our progressive engineering, focused on unparalleled performance & environmentally friendly solutions, surely strengthens our legacy as innovation leaders. Yet, exceptional offerings comprise only half the solution.

A truly differentiating strategy – one that adds lasting value – must contain more. Thus, ASK Chemicals offers three industry leading value added services: Technical Services, Design Services and Research & Development. Ultimately, maximizing your profitability is our highest priority. Our services, integrated seamlessly alongside our product offerings, will assuredly help you in achieving this goal.



- Original producers of the mini-riser
- Global production facilities
- Patented technology
- Environmentally friendly solutions
- Holistic value added services

Basic Information

EXACTCAST™ types

- Mini-risers
 - Riser sleeves
- Pouring cup
 - Breakers & cover lids

EXACTCAST™ styles



Waterglass-bonded feeders

- Low gas emissions
- Contains no organic materials



Cold box -bonded feeders

- Reduced weight
- Easy handling
- Utilizes ASK Chemicals cold box technology

EXACTCAST™ formulations

➤ IN series

The IN series is an insulating formula designed for use with all metals including steel.

➤ EX series

The EX series is a standard grade exothermic formulation designed for use with all ferrous metals. Our EX sleeves & risers are contain low-fluorine levels.

➤ EXF series

The EXF series is an exothermic fluorine-free variation. The elimination of fluorine allows for easier/less complicated disposal of used sand. Several additional benefits can be realized with fluorine-free risers & sleeves: reduction of graphite degeneration, avoidance of surface flaws and overall cleaner workplaces.

Custom solutions

Apart from the system solutions mentioned in this brochure, ASK Chemicals also offers you custom solutions to fit your individual process. Please contact us to discuss your specific needs.

Mini-Risers for Standard Applications

High performance versatile mini-risers for best results

EXACTCAST™ ADS

EX
EXF



EXACTCAST™ KMV

EX
EXF



The ADS riser is highly stable and suitable within no-bake molding and hand-molding applications. Available in fluorine free, with or without a breaker core. It is also usable with an open spring-pin.

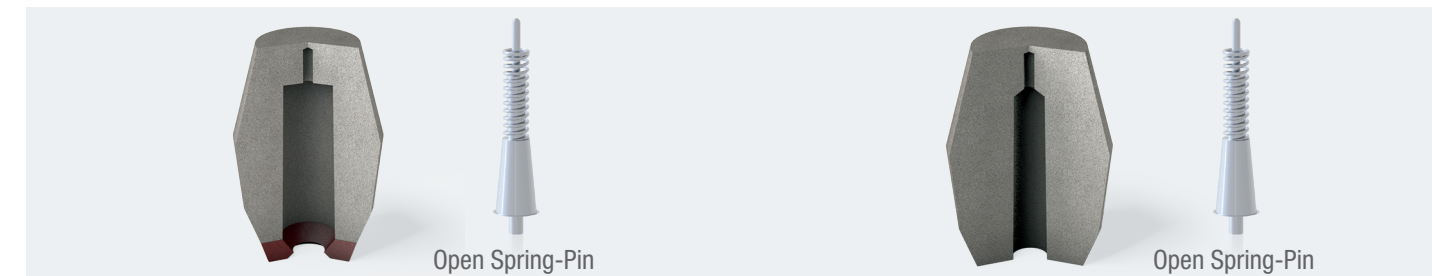
The KMV mini-riser is especially light-weight and is usable in multiple molding types. This versatile riser may be used with a spring-pin, or simply placed directly on top of the casting. The KMV is highly exothermic, and is available in a fluorine free formulation.

Benefits

- Low emissions
- Available in fluorine free
- Improved yield via lower liquid iron content

Benefits

- Light weight
- Improved yield via lower liquid iron content
- Optimizes yield in steel castings



	Molding type		Metal type				Application	
	Green Sand & HP	Chemically Bonded	Iron GJL	Iron GJS	Steel	Non-Ferrous	Ram-up	Insertable
ADS	X	X	X	X	○		X	
KMV	X	X	X	X	X	○	X	

x = recommended
○ = partially recommended

Recommendations only; please consult an ASK-representative for more information

Mini-Risers for High Pressure Applications

Dynamic mini-riser system with reduced neck diameter

EXACTCAST™
FDS

EX
EXF



EXACTCAST™
KMV-QT

EX
EXF



By using spring pins, FDS risers have small bases. In addition, they do not come into direct contact with the casting. Available in fluorine free.

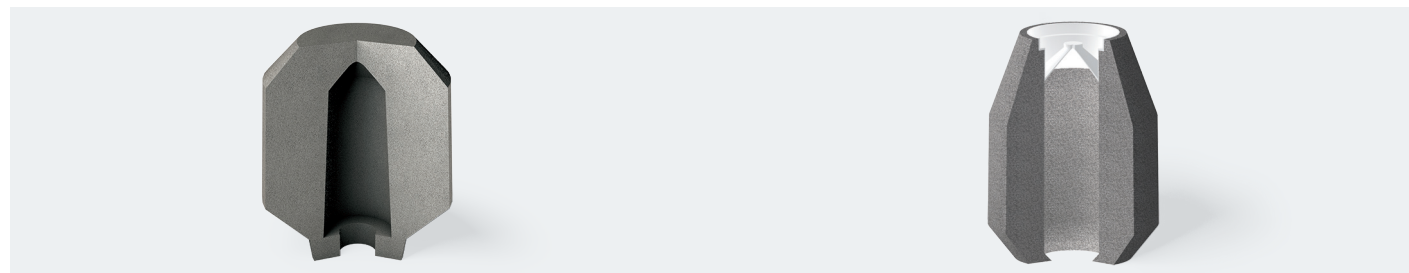
KMV-QT is a cold box bonded, economical and light weight riser that has only a small base size thanks to the use of spring pins. The riser can also be used directly on the casting. Available in fluorine free.

Benefits

- Low emissions via inorganic materials
- Low finishing costs from smaller neck width
- Spring pins reduce base size, surface imperfections and pattern wear

Benefits

- Low weight
- Low finishing costs from smaller neck width
- Plastic cap eliminates riser inclusions on the mold surface



	Molding type		Metal type				Application	
	Green sand & HP	Chemically bonded	Iron G.JL	Iron G.JS	Steel	Non-ferrous	Ram-up	Insertable
FDS	X		X	X	○		X	
KMV-QT	X	X	X	X	○	○	X	

x = recommended
○ = partially recommended

Recommendations only; please consult an ASK-representative for more information

Mini-Risers with Metal Necks

Eliminates the need for applying breaker cores

EXACTCAST™ BKS
EXACTCAST™ BKS C

EX
EXF



EXACTCAST™
KMV-QM

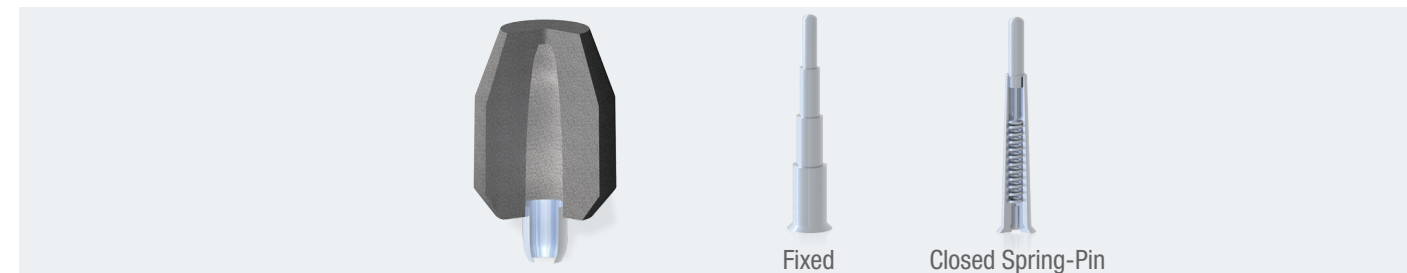
EX
EXF



Breaker edge risers use a loose molded part in the bottom area of the riser and the corresponding spring pin to create a specifically defined breaking point, which makes it easier to break off the riser and significantly reducing fettling costs and can in some cases completely eliminate the need for finish grinding. Available in fluorine free. The BKS C mini-riser – including a center hole – is usable with a rigid pin. Both varieties are available in a fluorine free formulation.

Benefits

- No need for breaker cores
- Extremely small base area
- No contact between the casting and the exothermic riser material
- Multiple versions to fit your process



	Molding type		Metal type				Application	
	Green sand & HP	Chemically bonded	Iron G.JL	Iron G.JS	Steel	Non-ferrous	Ram-up	Insertable
BKS	X		X	X	○		X	
KMV-QM	X		X	X	○		X	

x = recommended
○ = partially recommended

Recommendations only; please consult an ASK-representative for more information

Mini-Risers with Free-Moving Metal Necks

The most efficient & high performing mini-risers

EXACTCAST™
Optima KL

EX
EXF



EXACTCAST™
Optima KMV-CC

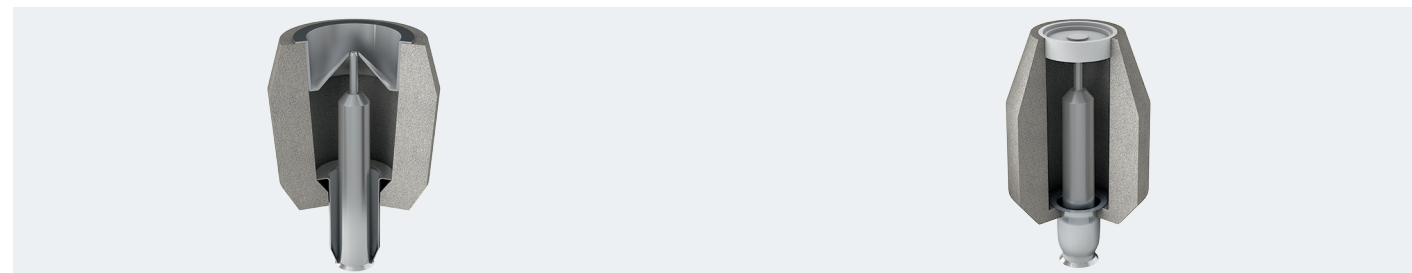
EX
EXF



Breaker edge risers use a loose molded part in the bottom area of the riser along with a corresponding spring-pin to create a specifically defined breaking point. This, in turn, makes it easier to break off the riser and significantly reduce fettling costs. In fact, in some cases one can completely eliminate the need for finish grinding. A incorporated cap and loose tube (KMV-CC) prevents against riser particles falling into the mold. Both styles are available in a fluorine free formulation.

Benefits

- No need for breaker cores
- Extremely small base area
- No contact between the casting and the exothermic riser material
- Multiple versions to fit your process
- Prevents against riser particles falling into the mold



	Molding type		Metal type				Application	
	Green sand & HP	Chemically bonded	Iron GJL	Iron GJS	Steel	Non-ferrous	Ram-up	Insertable
Optima KL	X		X	X	○		X	
Optima KMV-CC	X		X	X	○		X	

x = recommended
○ = partially recommended

Recommendations only; please consult an ASK-representative for more information

Mini-Risers with High Insulation Properties

The thickest insulation walls available

EXACTCAST™
KIM Insertable

EX
EXF



EXACTCAST™
KIM-QM

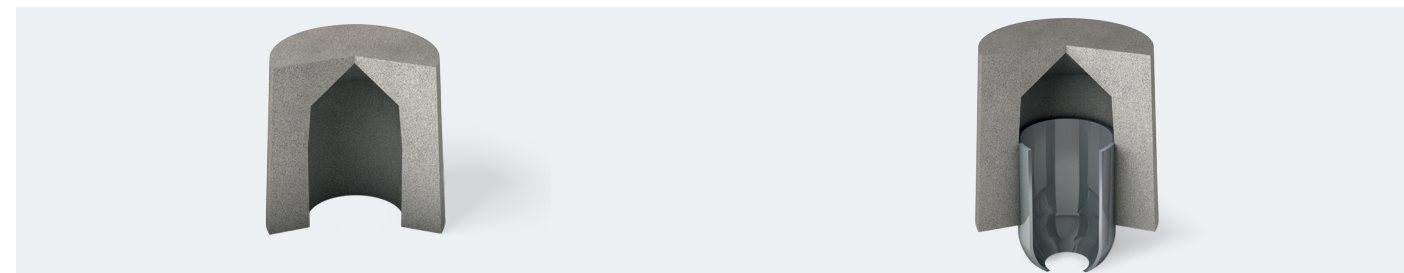
EX
EXF



The new EXACTCAST™ KIM insertable mini-riser line was created to service customers looking for options that didn't come at the expense of high metal usage. The "KIM" accomplishes this by doubling the riser wall thickness. In addition, by incorporating a conical shape less metal is required to fill the space. Total riser weight is also of little concern due to the lightness of the refractory material composition. Available in a fluorine free formulation, with or without a breaker core and with metal neck reduction.

Benefits

- Improved yields
- Additional high insulation effect
- Available in multiple sizes



	Molding type		Metal type				Application	
	Green sand & HP	Chemically bonded	Iron GJL	Iron GJS	Steel	Non-ferrous	Ram-up	Insertable
KIM	X	X	X	X	X	○	X	X
KIM-QM	X		X	X	○		X	

Recommendations only; please consult an ASK-representative for more information
KIM insertable mini-riser is also available with a breaker core (KIM-GP)

Riser Sleeves for Insertion

Precise dimensional stability with no deformation

EXACTCAST™
Insertable Riser
Sleeves & Covers

IN
EX
EXF



EXACTCAST™
Cover Lids &
Floating Cover Lids

IN
EX
EXF



Riser covers and sleeves are available in highly exothermic and insulating versions. They are characterized by their high level of strength and dimensional accuracy. Suitable for inserting into molds as well as automatic casting systems and being placed in DISAs using core setters. They can also be used with breaker cores. Available in fluorine free, with or without a breaker core.

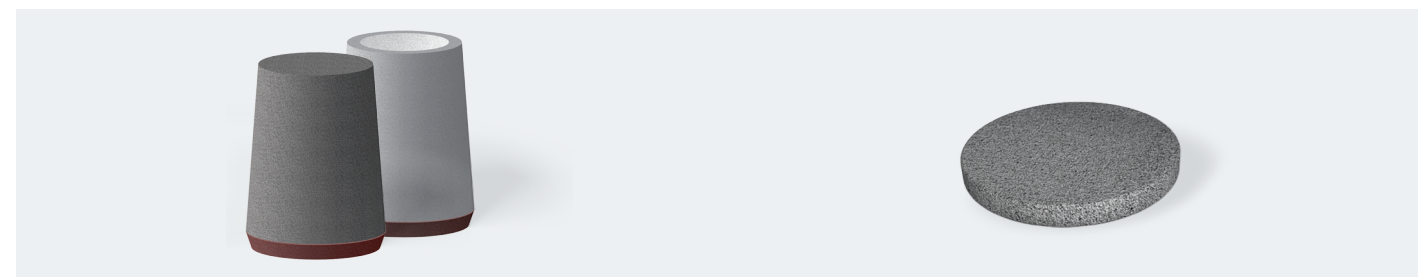
With ASK's cover lids you replace the need to apply the typical powdered hot topping to open risers. In fact, they are much more consistent in performance to standard hot toppings due to their predetermined size and weight. The floating cover lids, for reference, are placed inside the feeder when the mold is closed and float up as the riser fills with molten metal. Available in fluorine free.

Benefits

- Low gas evolution
- Consistent thermal properties & performance
- Available in custom shapes & sizes
- Can be used with a breaker core

Benefits

- Improved feeding consistency
- Reduced segregation
- Available in all formulation types



	Molding type		Metal type				Application	
	Green sand & HP	Chemically bonded	Iron G.JL	Iron G.JS	Steel	Non-ferrous	Ram-up	Insertable
Insertable sleeves	X	X	X	X	X	X	X	X
Cover lids	X	X	X	X	X	X	X	X

x = recommended

Recommendations only; please consult an ASK-representative for more information

Riser Sleeves for Open Riser Application

Precision grade designs for multiple applications

EXACTCAST™
Cylindrical Sleeves

IN
EX
EXF



EXACTCAST™
Neckdown Sleeves

IN
EX
EXF



EXACTCAST™ cylindrical sleeves are used primarily in open riser applications. They are available in insulating and exothermic/insulating formulations. For your added benefit ASK Chemicals provides cylindrical sleeves with our patented measuring markers for easy cutting. Available in fluorine free, with or without a breaker core.

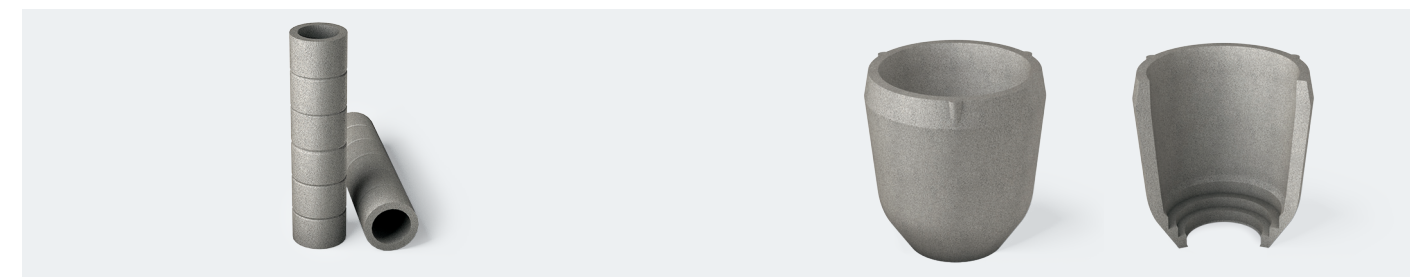
ASK Chemicals EXACTCAST™ neckdown sleeves are used primarily in open riser applications. They are available in both insulating and exothermic/insulating formulations. Also available in tapered designs. Available in fluorine free, with or without a breaker core.

Benefits

- Low gas evolution
- Consistent thermal properties & performance
- Available in custom shapes & sizes
- Can be used with a breaker core

Benefits

- Reduced contact area
- Dimensional accuracy
- Consistent thermal properties and performance



	Molding type		Metal type				Application	
	Green sand & HP	Chemically bonded	Iron G.JL	Iron G.JS	Steel	Non-ferrous	Ram-up	Insertable
Cylindrical	X	X	X	X	X	X	X	X
Neckdown	X	X	X	X	X	X	X	X

x = recommended

Recommendations only; please consult an ASK-representative for more information

Pouring Cups for Filtration & Feeding

Ideal designs alongside superior filtration

EXACTCAST™
Pouring Cups



EXACTCAST™ pouring cups are used in direct pouring applications, promoting directional solidification and increasing metal cleanliness. Containing high quality ASK Chemicals' filters: UDICELL™ & EXACTFLO™ they are available for use in multiple metal applications, including aluminum. They are also available in sizes ranging from 2" to 7" diameter.

Benefits

- Promotes directional solidification
- Improves metal cleanliness, yield & productivity
- Close over design available for high production green sand



	Molding type		Metal type				Application	
	Green sand & HP	Chemically bonded	Iron G.JL	Iron G.JS	Steel	Non-ferrous	Ram-up	Insertable
Poring cups	X	X	X	X	X	X	X	X

x = recommended

Recommendations only; please consult an ASK-representative for more information

ASK Chemicals

Value Added Services

Technical Services – An invaluable service and partnership

The ASK Chemicals Technical Services Team provides our customer-base with an invaluable degree of knowledge & expertise. Our trusted representatives are specialists and come with years of experience in the metal casting industry. We provide a full service that includes, a complete production process review, a cost savings analysis and an improvement recommendation list. We even will conduct casting defect analysis and personnel training.

Benefits

- Greater insight for better decision making
- Reliable recommendations
- Quick response

EXACTCALC™

EXACTCALC™ software exclusive to ASK Chemicals, was specifically designed to assist the foundry engineer with riser & gating system design. With EXACTCALC™ you'll receive critical and comprehensive calculations: casting weight, modulus, riser feeding distance, riser size, riser neck contact dimensions, gating system dimensions and filter size.

Benefits

- Accurate recommendations
- Customizable “Learn-Function” – specific to your foundry
- Printable results



Design Services – Simulations engineered for perfection

ASK Chemicals design services team provides you simulation services for optimized casting results. Our team of engineers can quickly and reliably determine solutions to make your casting as ideal as possible. Utilizing industry leading software (e.g. Arena-flow, Magma, Flow 3D, etc.) we offer invaluable manufacturing clarity. Arena-flow® – our proprietary computational particle fluid dynamics software – for example, provides the most accurate "real-world" results within sand particle simulation.

Benefits

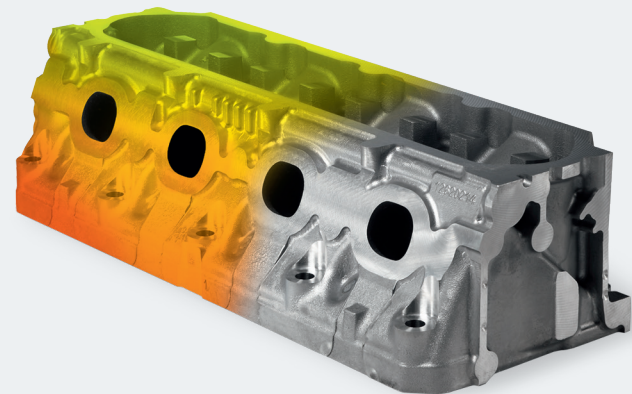
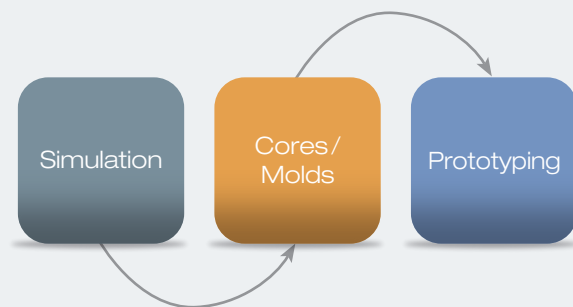
- Calculation of optimal feeding
- Reduced scrap caused by casting defects
- Optimized results you can trust

Simulation

- Core Blowing
- Core Gassing
- Core Dehydration
- Mold Filling
- Casting Solidification
- Simulation of Binder Degradation/
Gas Evolution During Filling

Design with prototype intent

ASK Chemicals has the unique capability of turning conceptual casting designs into reality (i.e. prototypes). This advantage, among other things, simplifies advanced prototyping by placing it all under one roof.



Research & Development – Unmatched world-class capabilities

With ASK Chemicals our full research capabilities are at your disposal. Recognized as industry leading innovators our abilities in defect analysis, product development and product quality are unparalleled. This department guarantees you are receiving the highest service available.

Benefits

- Highly-experienced and qualified R&D team
- Globally present & available
- Deep knowledge of local sand types and technologies
- Short reaction times to serve our customers
- Excellent equipment

Full-service R&D capabilities

Metal Applications Laboratory

- Fully equipped research foundry
- Molding, mold/core package assembly & pouring
- "Real World" foundry process representation

Sand Laboratory

- High temperature material investigation (e.g. gas evolution)
- Tensile, compression & transverse load specimen testing
- Sand characterization & analysis

Product Development & Technical Support

- Casting defect analysis
- Full spectrum chemical & polymer analysis
- Product, process and test method development



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Please contact ASK for any questions concerning the usage of these marks

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