Conquer challenging drilling applications – consistently and economically

Kymera Mach 6 hybrid bit

Baker Hughes

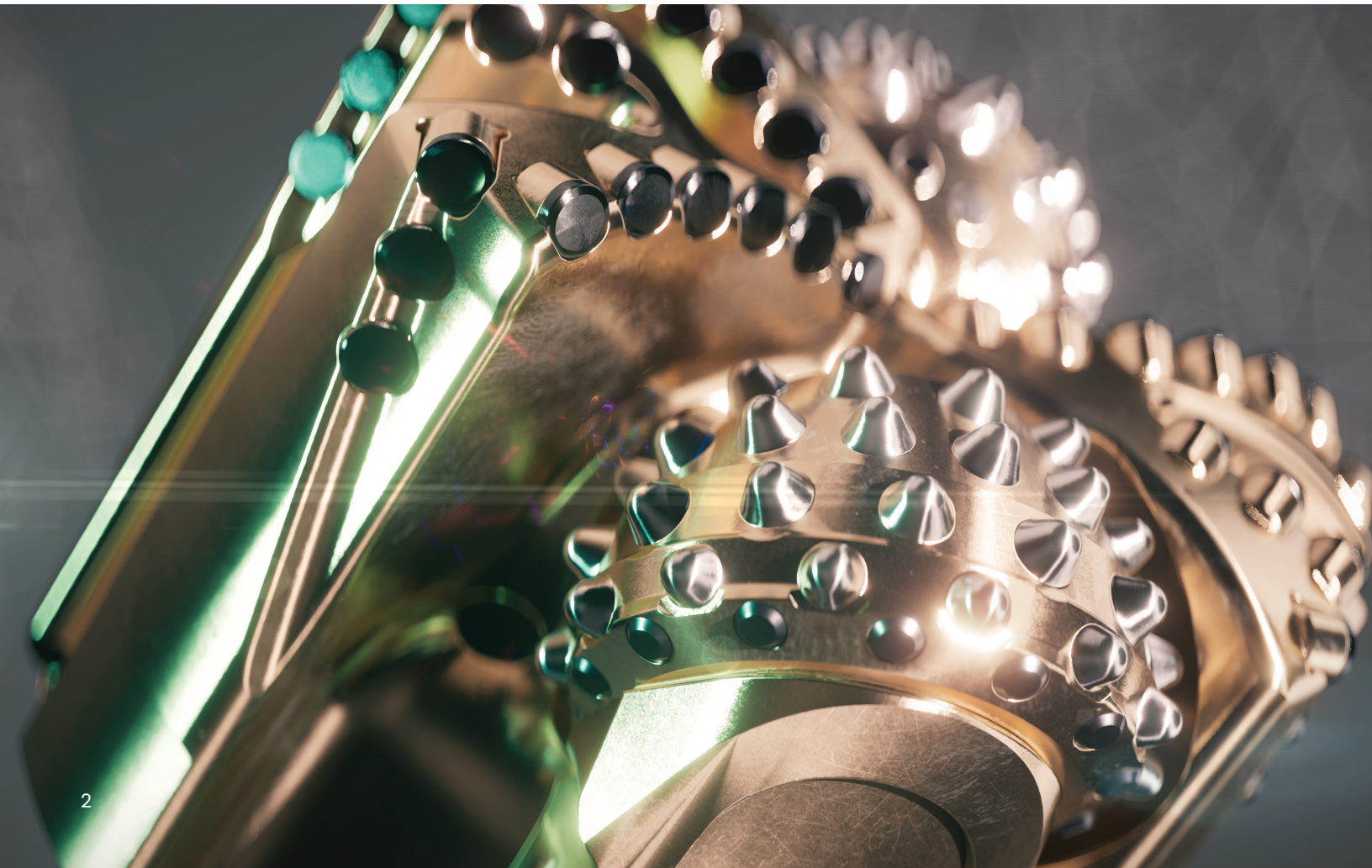
Kymera™ Mach 6 improves drilling performance in the world's most challenging applications

Improve durability and increase drilling efficiency with new design strategies and cutting materials

Built for tougher drilling with improvements to shoulder and leg integrity

Optimize for any application with 3D Tetrahedron™ bit drilling simulation software that models the Kymera dual cutting mechanism

The end result: **Less drilling time, more consistent performance and, lower total well costs**



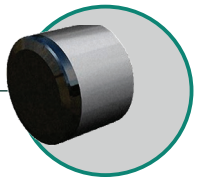
Kymera™ Mach 6

hybrid drill bit

Robust cutter layout

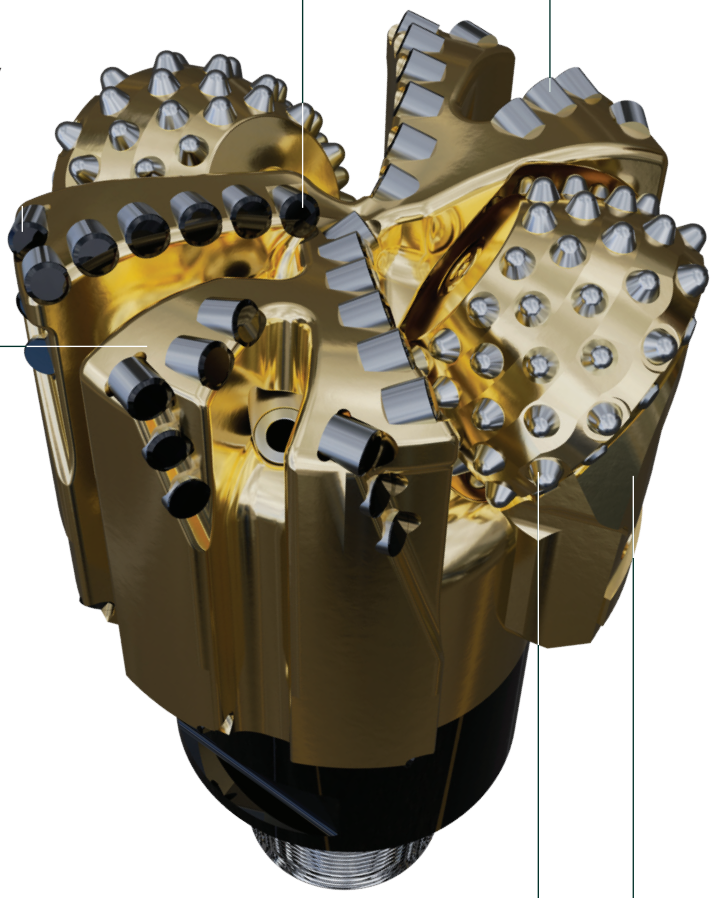
New design methods improve bit durability

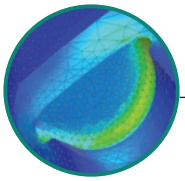
Better shoulder durability and improved core-out resistance



Total upgrade to cutter portfolio

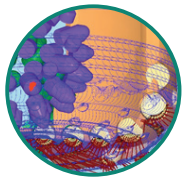
Widen performance envelopes in every application with next-generation PDC cutter families





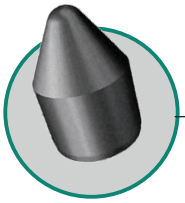
Reinforced shoulder design

Design and engineering method enhances shoulder integrity



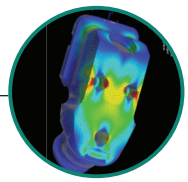
Advanced bit modeling

3D bit drilling simulation software models the Kymera dual cutting mechanism for optimized design and application decisions



Advanced carbide grades

New carbide grade for abrasive applications, adding to portfolio of industry-leading advanced carbide grades



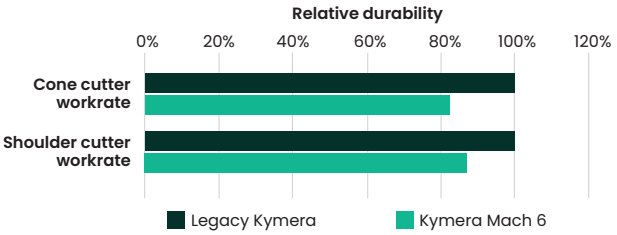
Enhanced leg integrity

A finite element analysis (FEA) model of the new Kymera leg design demonstrates a 30% reduction in stress.

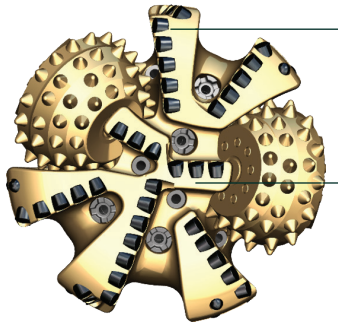
Robust cutter layout

The Kymera Mach 6 bit's new robust cutter layout incorporates maximized ShadowCut™ cutter coverage and a true 3-blade-to-center design for improved shoulder durability and better core-out resistance.

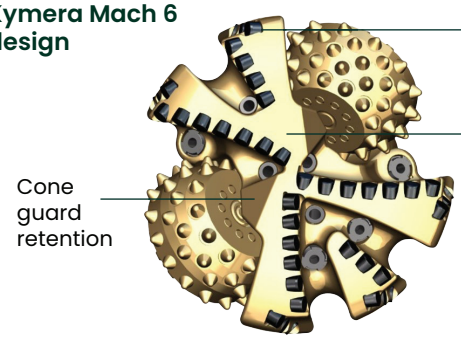
The mechanical cone guard retention design reduces NPT risk due to lost cones downhole.



Legacy Kymera design

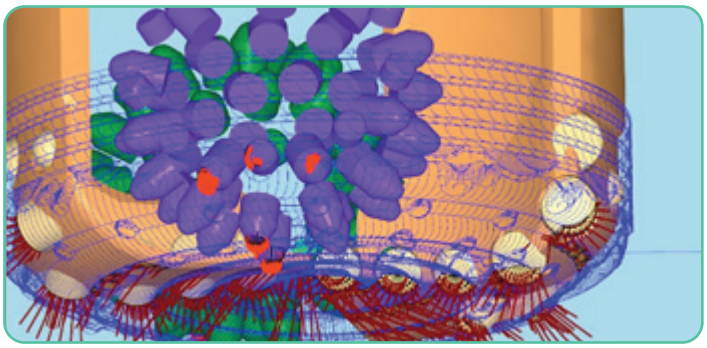


Kymera Mach 6 design



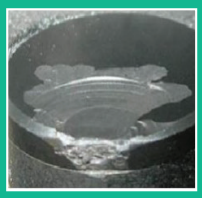
Advanced bit modeling

3D Tetrahedron™ bit drilling simulation software models the Kymera dual cutting mechanism together in one model, enabling more informed bit selection and better design optimization.



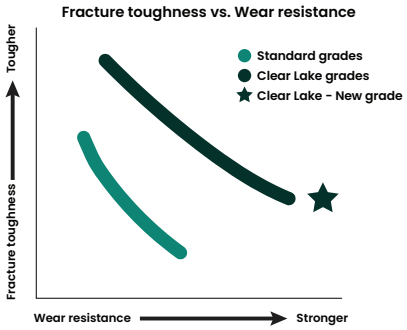
Total upgrade to cutter portfolio

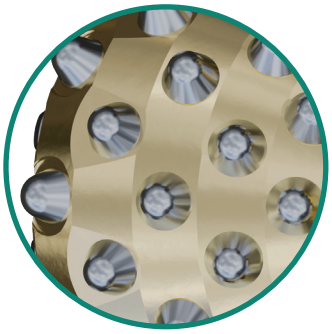
Kymera Mach 6 includes new PDC cutters that demonstrate increased abrasion resistance and thermal stability with greater resistance to impact damage.

EXAMPLES OF CUTTER DAMAGE	CUTTER TECHNOLOGIES: Kymera Mach 5	CUTTER TECHNOLOGIES: Kymera Mach 6
Breakage due to impact 	IMPACT, IMPACT, GP, ABRASION	IMPACT, ABRASION, GENERAL PURPOSE (GP)
Mild abrasive wear with chipping and spalling  		
Abrasive wear 		

Advanced carbide grades

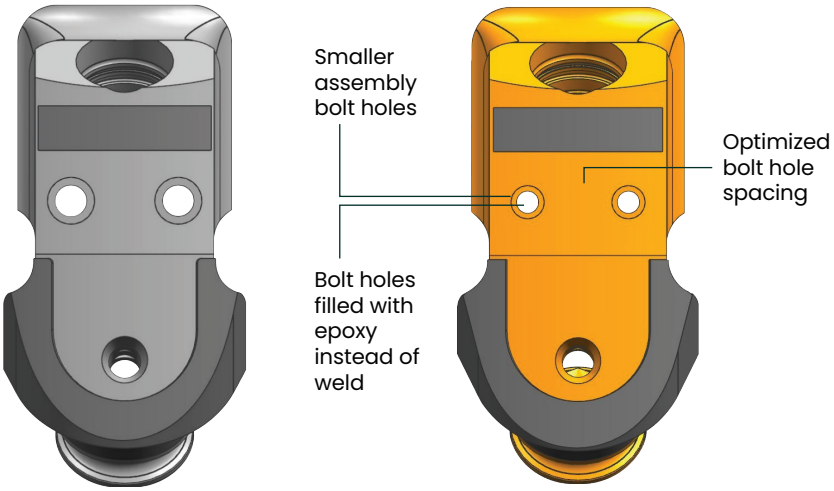
Kymera bits use an industry-leading, proprietary family of advanced carbide grades for improved wear resistance and fracture toughness compared to conventional grades. Kymera Mach 6 adds a new carbide grade to this family with greater wear resistance to improve drilling performance in abrasive applications.





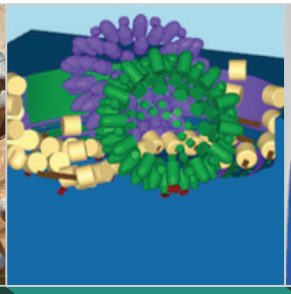
Enhanced leg integrity

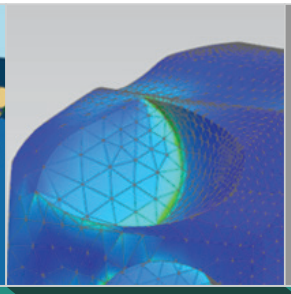
Leg integrity is enhanced with design and manufacturing updates that reduce stress by up to 30%, providing greater reliability and reduced NPT risk in extreme loading scenarios.

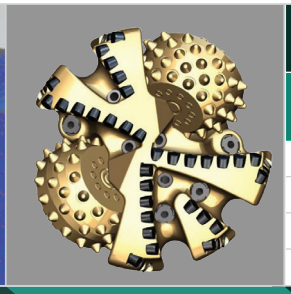


Reinforced shoulder design

The reinforced shoulder uses a detailed design process to ensure integrity of the ShadowCut cutter pockets. An FEA model predicts pocket reliability using cutter loads from Tetrahedron to improve durability and performance consistency.







Pocket stress assessment

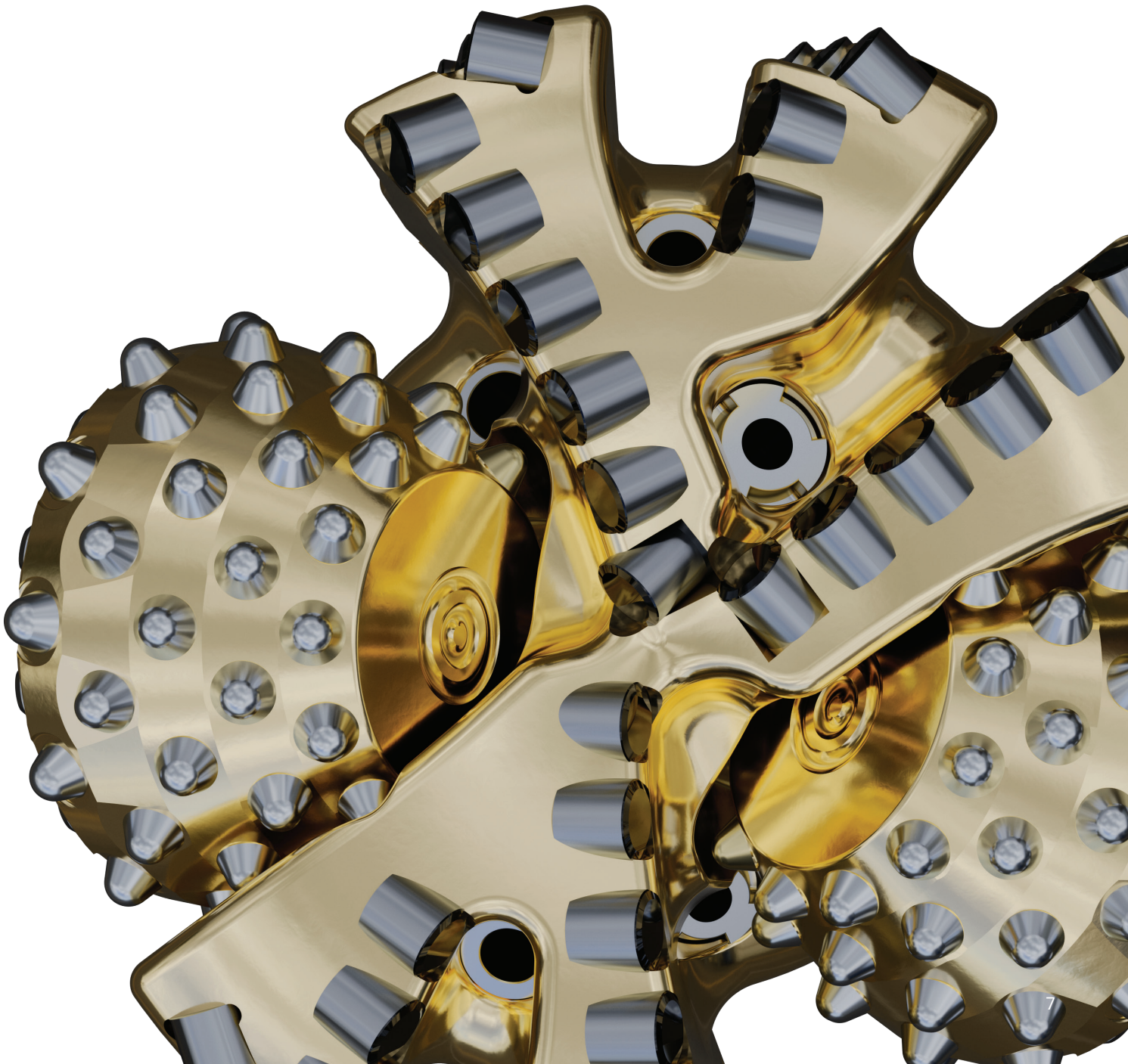
	Stress relative to threshold	
Cutter #	Reference design	New design
32	153%	76%
33	130%	64%
34	136%	65%
35	146%	73%

Contact your local Baker Hughes representative to learn how Kymera Mach 6 hybrid drill bits can help you conquer challenging applications in less drilling time while delivering more consistent performance and lower total well costs.

SCAN NOW TO LEARN MORE

Kymera™ Mach 6

hybrid drill bit



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