ABS
ADVANCED BOLTING SOLUTIONS

RAD
TORQUE SYSTEMS

WIND PERSPECTIVE

SPECIAL WINDERGY 2026 EDITION

WIND TURBINE BOLTING BY ABS IN INDIA

LATEST TECHNOLOGY • TRAINED MANPOWER • TOOL RENTALS • CALIBRATION AND TRAINING

ZERO DOWNTIME

BOLTING APPLICATIONS IN WIND

PRODUCTION, INSTALLATION
& MAINTENANCE

Blade & Nacelle Bolting

Tower Bolting

Foundation Bolting



TORQUING



TENSIONING

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WIND PERSPECTIVE 2026

A MAGAZINE ABOUT ART OF BOLTING IN WIND



Editorial Team

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Co-Editor
Samvedana Agarwal

Highlights :

- Mobile Service Van
- Next Gen Pumps
- Extreme Engineering
- Reaction Arm Free Bolting


L. BALASUBRAMANIAN
CMD- ABS GROUP

Growing with the Wind Industry. Engineering for What's Next.

When we look at a wind turbine, we see much more than a machine that generates power. We see engineering, precision, people and countless decisions that come together to deliver safe and reliable performance. At ABS, we have had the privilege of being part of that journey for nearly three decades as the trusted bolting partner for wind industry.

Our association with India's wind industry began in 1998, when the sector itself was taking shape in India. From being part of the early generations of turbines from Suzlon, NEG MICON, Vestas RRB, Gamesa, GE, INOX, WINDWORLD, and many others, we have grown alongside the industry to support and continue to do so with today's higher mega watt class WTGs from leading turbine manufacturers such as Adani, Envision, GE, Senvion, INOX etc.

Wind Segment has seen a great transformational journey from a manufacturer-installer-maintenance company, to giving opportunities to IPPs (Independent Power Producers) which has opened market for emerging contractors in installation and maintenance services.

At ABS, we have also played a major role in allied industries that form part of supply chain to WTG manufacturers such as gearbox, blade manufacturing, nacelle assembly plants.
Over these years, our roles have also evolved. We are no longer simply a provider of bolting tools; we are an engineering partner addressing the complete spectrum of bolting challenges. Our technical teams work closely with customers and their design and application teams to develop customised bolting solutions for demanding applications in both torque and tensioning systems.

As part of our usual quest for excellence and innovation we have partnered with RAD Canada as a MASTER DISTRIBUTOR for the latest technologies in electric and battery operated tools with Bluetooth and wireless connectivity. At the same time, ABS has built end-to-end design and manufacturing capabilities in India for hydraulic bolting systems, enabling us to deliver high-performance through fully Indian-manufactured solutions. ***For us, Make in India is not merely about manufacturing locally; it is about building technology, engineering knowledge and manufacturing capability within the country, with the confidence to serve global requirements.***

We believe that technology, manufacturing, service and people must come together to create a truly reliable solution. This is why safety and competency development remain integral to our approach, including our commitment to GWO training and industry skill development.
As turbines become larger and more sophisticated, the bolting challenges before the industry will continue to evolve. At ABS, we see these challenges as opportunities to innovate, engineer and build better solutions.

From the first turbines that shaped India's wind industry to the next generation of wind energy, our journey has always been about growing with our customers. We look forward to engineering the future of wind, together.

ABS Certifications :



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THE WORKSHOP COMES TO YOUR WINDFARM

The ABS Mobile Service Van provides on-site inspection, troubleshooting, repair and calibration support, reducing the need to send tools to a service centre. The van is equipped with a dedicated workspace, essential spares, power systems and air compressors, enabling service support even at remote locations. It can calibrate hydraulic, pneumatic, electric and hand torque tools up to 27,000 Nm, across any make or brand.

Over the last five years, the van has travelled more than 2,00,000 km across customer locations. It follows a planned quarterly programme across six states, with visits scheduled around major customer sites. For the wind industry, van deployment is also planned considering new turbine installation schedules and high-wind periods, so that service support can be positioned closer to customer sites when required.

27,000 Nm
Mobile calibration capability

2,00,000+ km
Travelled in the last five years

7 States
Covered through planned quarterly visits



Any Make, Any Brand — Inspection, repair and calibration support. The Mobile Service Van is part of the wider ABS service network and supports customers with preventive maintenance, tool readiness and faster on-site technical support.





Case Study - Extreme Engineering

ABS Shrink Disc Tensioning Solution: Reducing Operation Time

Tightening the shrink disc on a gear box is always a time consuming job. The shaft needs to be kept in rotation and minimum of two operators need to gradually torque down the shrink disc bolts.
To avoid the above problems, a prominent wind turbine manufacturer in Pune approached ABS. Our experts successfully optimized the shrink disc tensioning process by replacing a time-consuming conventional torquing method with a customized hydraulic tensioning solution.

The conventional process required approximately 3.3 hours per operation, involved significant manual effort, and required additional manpower. Following a detailed application study and on-site demonstration, ABS engineers developed tensioning solution tailored to the customer's shrink disc assembly.

This successful application demonstrates ABS's commitment to delivering customized bolting and tensioning solutions that enhance productivity, optimize resources, and address demanding industrial challenges through application-specific engineering.

The innovative two-stage approach involved initially tensioning 50% of the bolts, followed by the final tensioning sequence. This eliminated the conventional torquing process and reduced the total operation time from 3.3 hours to just 45 minutes—a reduction of approximately 77%.

The solution also reduced manpower requirements, minimized operator fatigue, and improved operational efficiency and workplace safety.



From The Leaders



ROGER ROMARD
VP – Sales & Business Development
RAD Torque Systems, Canada

THE DEMANDS OF THE WIND INDUSTRY

Wind turbines operate under constant vibration, dynamic loads and exposure to the elements. As turbines become larger, with taller towers and longer blades, reliable and efficient bolting becomes increasingly important — particularly when technicians are working hundreds of feet above the ground.

At RAD Torque Systems, we understand these unique demands. Our high-torque electric and battery-powered solutions are designed to be accurate, lightweight, easy to handle and efficient, without the need for heavy hydraulic pumps. From tower and blade bolting to hubs, gearboxes, generators and yaw applications, RAD tools are built for the realities of wind.

Wind turbines also present challenging access conditions, with confined spaces and unique curvatures. RAD offset gearboxes, 90-degree configurations and Smart Sockets™ provide application-specific solutions where conventional tools cannot.

We are proud to support leading wind companies globally and, through our long-standing partnership with ABS in India, bring this technology closer to the Indian wind industry.

High torque. Difficult access. Extreme heights. RAD is engineered for the challenge.



SRIVIDHYA GANESH
CEO- ABS Group

THE ABS WAY — BUILT ON RELIABILITY

In the wind industry, reliability does not announce itself. It has to be built long before anyone asks for it. At ABS, we believe reliability is a consequence of how an organisation works. It comes from the discipline of getting the fundamentals right every single time — understanding the application, engineering the solution, controlling the process, validating the performance and standing behind the result.

For us, this discipline becomes even more important when working with critical bolting applications at 700 bar, 2,000 bar and beyond. There is little room for approximation when equipment is operating at such pressures and when a tool failure at site can directly affect safety, productivity and turbine uptime. This is what we call the ABS Way: a commitment to doing things right, consistently and responsibly, whether the customer is watching or not. The industry will always see new players, new products and new approaches. But lasting customer confidence is built differently. It comes from consistently understanding the application, getting the fundamentals right, standing behind the solution and being there when the customer needs us. ***The number that I watch most closely isn't the turbines under contract or tools shipped. It's how often an existing customer calls us about something we don't already do for them yet. That's the one that tells me the trust is compounding, not just renewing.*** That is the standard we have set for ourselves.



ROBIN JOSE
Business Head- ABS Group

WE LISTEN. WE SOLVE. WE STAY INVOLVED

For me, a strong customer relationship begins with listening. Understanding the application, the pressures and the priorities helps us recommend a solution that truly fits. That involvement can start at the design stage. In one OEM assignment, our study halved the proposed tool requirement while maintaining the required output. Optimising the selection reduced the customer's investment— and demonstrated that their interests guided our recommendation. Our responsibility continues through supply, installation and ongoing support. When an issue escalates, we understand that people, schedules and costs are under pressure. We act promptly, coordinate the right support and keep the customer informed through resolution.

That is how we build lasting relationships: sound solutions, empathy in our response and ownership of our commitments.

RAD TORQUE SYSTEMS



E-RAD BLU

Precision electric torque control for demanding bolting applications
The E-RAD BLU is a high-performance electric torque wrench designed for applications requiring accuracy, repeatability and controlled bolting data. Combining RAD Torque's gearbox technology with electronic torque control, it supports complex high-torque assembly work with fast, precise operation.

- Accuracy up to ±2.8% of target torque
- Torque and angle measurement
- Advanced data logging and tool management
- Bluetooth® connectivity with RAD Smart Socket™
- LED pass/fail indication
- Push-button torque selection
- Lightweight, ergonomic pistol-grip design
- Available with 90° gearbox configuration
- Touch Control Case for precise torque and angle setting

TORQUE RANGE 135–15,000 Nm



B-RAD X™

The award-winning B-RAD Xtreme Series has evolved into the most comprehensive cordless industrial torque wrench lineup. With 7 torque ranges, 9 configurations and a torque capacity from 50 to 11,000 ft-lb (70–15,000 Nm), there's a B-RAD Xtreme built for every industrial bolting application, delivering up to 55% faster torque cycles than our popular B-RAD Select Series, which help operators complete more bolting jobs in less time without compromising accuracy or reliability.

Built around RAD Torque's patented gearbox technology, a high-performance brushless DC motor and advanced fastening electronics, every B-RAD Xtreme delivers exceptional battery efficiency, repeatable accuracy and the rugged durability professionals rely on every day.

- Available in 7 torque ranges from 50-11,000 ft-lb (70-15,000 Nm)
- Torque Angle functionality for advanced bolting control
- Gearboxes optimized for faster torque cycles
- Brushless DC motor
- High-capacity lithium-ion battery system
- Intuitive 4-button interface with high-contrast LED display
- Redesigned ergonomic controls
- NFPA 70 NEC Certified: Class I, Division 2
- Award-winning platform recognized by the Edison Awards and Pro Tool Innovation Awards

TORQUE RANGE 70–15,000 Nm

RAD TORQUE SYSTEMS



B-RAD SELECT OFFSET

Torque ranges up to 5,000 ft. lbs. (7,000 Nm)
Equipped with the latest lithium-ion technology
Suitable for pre-torque and service jobs where electricity or compressed air are not available
Accuracy of +/- 5% and repeatability of +/- 2%
Also known as the B-RAD BL Select Offset which stands for brushless

B-RAD SELECT EGX SERIES

The B-RAD Select EGX-R 1000-2/1400-M-2 incorporates an extension tube from the adapter plate to the gearbox, improving ergonomics by minimizing operator bending during use

Torque Range: 170 Nm – 1400 Nm
Speed: 71 RPM
Noise Level: 90 dBs
Repeatability: +/–2%
Accuracy: +/–5%





RAD CALIBRATION SYSTEMS

Five models available
Individually calibrated and traceable to NIST standards to ensure joint integrity
Verifies that wrench is operating at maximum efficiency and safety levels
Ensures torque wrench accuracy

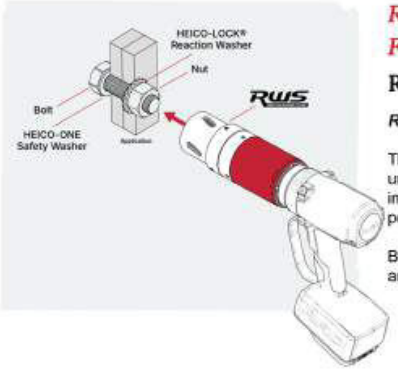
Torque Range: 75 – 15,000 ft. lbs. (100 - 20,000 Nm)

RAD SMART SOCKET™

Measures and displays peak torque up to 18,000 ft. lbs. (16,200 Nm)
NEW 18K Smart Socket™ must be used with a deep reaction arm
Built-in rechargeable battery
"Pass" or "Fail" indication function
Data logging – download logs (XLS, CSV, PDF)
Free software included
Full traceability of bolted joints

Torque Range: 150-18,000 ft. lbs. (200-16,200 Nm)





RAD REACTION WASHER SYSTEM (RWS) FOR REACTION FREE BOLTING

RWS × HEICO

Reduce Side Loads. Protect Your Equipment.

The RWS applies torque in a concentric way, helping reduce unnecessary stress on both the tool and the fastener. The result is improved durability, reduced wear, and more consistent bolting performance.

By removing the reaction arm, operator safety has been improved and pinch points eliminated.

ABS HYDRAULIC TORQUE WRENCHES

CNX



TORQUE RANGE 160 Nm- 80,000 Nm

Square Drive Torque Wrenches

ABS CNX Series delivers precision torque and maximum breakaway power in tight spaces, with a lightweight, durable design for long cycles and heavy wear, while ensuring operator comfort through an ergonomic, fatigue reducing design.

CNZ

The Ultimate Low-Profile Torque Wrench

ABS CNZ Series delivers full power in tight spaces with an ultra-compact design, precision torque, and maximum breakaway strength.



TORQUE RANGE- 100 Nm- 80,000 Nm

CNF



TORQUE RANGE 266 Nm-15912 Nm

ABS CNF Series combines high torque output with a practical square-drive design for efficient socket-based bolting. Its range of drive sizes supports compatibility with different fasteners and application conditions.

ABS MULTI-STAGE TENSIONER

The ABS HFMT Series features a stacked -cylinder design, delivering maximum axial load with a slim diameter. Perfect for wind turbine foundations and narrow bolt circles, these tools offer high-capacity tensioning where standard tools cannot physically fit.





Slim-Line Design
Stacked chambers provide massive force in tight radial spaces.

Auto-Retract
High-tension springs ensure rapid piston return for fast cycling.

Overstroke Safety
Integrated relief valves and indicators prevent seal damage.

High Efficiency
Optimized for repetitive, high-load bolting in wind energy.

Heavy-Duty Build
Engineered to withstand rigorous industrial and field use.



ABS DOCUMENTATION PUMP

FROM BOLTING EXECUTION TO BOLTING EVIDENCE

Wind bolting demands more than torque. It demands accuracy, repeatability and proof of work.

The ABS Documentation Pump combines controlled hydraulic tightening with digital documentation — helping teams tighten critical joints, capture bolting data and retain a clear record of the job.



MAIN FEATURES

- **TORQUE + ANGLE TIGHTENING**
  Greater control over critical tightening operations.
- **DATA RECORDING & DOCUMENTATION**
  Capture tightening data as the job happens.
- **USB / OPEN PROTOCOL DATA EXPORT**
  Store, transfer and integrate bolting records easily.
- **OIL COOLER FOR CONTINUOUS DUTY**
  Built for repetitive, high-volume bolting operations.
- **7 L OIL RESERVOIR**
  Designed to support demanding site applications.

WHY IT MATTERS IN WIND

With hundreds of critical bolts across turbine assemblies, tightening is only half the job. Verification is the other half.
The ABS Documentation Pump brings control, consistency and traceability to wind bolting — helping reduce manual documentation and giving project teams greater confidence in every completed joint.

DON'T JUST TIGHTEN IT. PROVE IT.

DESIGN & MANUFACTURING EXCELLENCE







At ABS, every tool begins with a strong foundation in engineering. Our design and development process combines advanced AutoCAD, SolidWorks and simulation software with a structured approach to Design FMEA, Process FMEA and design verification. This helps us to identify potential risks at the design stage and develop robust, reliable solutions before a product enters production.

Our approach goes beyond design. Material selection, metallurgical considerations, heat treatment, dimensional accuracy and process capability are carefully evaluated for every critical component. This is particularly important in hydraulic torque wrenches, where components must withstand high loads while maintaining precision and reliability over repeated cycles. A single torque wrench comprises nearly 50 individual components, each contributing to the performance of the complete tool. From minute dimensional tolerances to critical fits and finishes, every component is manufactured with meticulous attention to detail. Robust process controls and stringent inspection ensure that design intent is consistently translated into the finished product. Before release, product prototypes undergo rigorous validation, including testing exceeding 10,000 cycles, to establish performance, durability & reliability under demanding operating conditions.

The same discipline extends to our supply chain. Vendor selection and development follow a structured qualification and First Part Approval process, with supplier capabilities assessed against defined quality and manufacturing requirements.

At ABS, design and manufacturing work as one integrated system — combining engineering expertise, material science, precision manufacturing and rigorous validation to create tools that are built to perform in the field. Make in India represents a commitment to manufacturing bolting equipment that meets the demands of international industry. Our capability brings together precision machine, engineering, and streamlined quality controls to deliver tools for demanding industrial applications.

CONTROLLED BOLTING SERVICES



Wind turbine installation and maintenance involve significant downtime costs, labour and equipment. Bolting is often treated as one activity within a larger erection project, although the integrity of these joints is critical to turbine installation, safety and long-term performance. Controlled bolting requires specialised knowledge. Factors such as friction coefficient, lubrication, thread galling, side loading, fastener condition, space restrictions, tool selection, bolt load and clamping force can directly influence the quality of the joint. ABS brings this application expertise to site through experienced teams trained continuously in bolting methodology, safe tool operation, workplace safety, tool maintenance, data management and documentation.

A Story of Resilience, Commitment & Performance

The Adani project in Gujarat tested our capability in an environment with limited infrastructure and difficult site conditions. When Adani entrusted ABS with the installation of its first turbine at Khavda, the assignment demanded much more than technical expertise. Nearly 90 ABS personnel, working across around 11 crews, spent more than 18 months at the site and successfully installed 200+ turbines, which are now operational and generating wind power. The achievement reflects the resilience of our teams—their ability to adapt, work together, solve problems on site and remain committed through demanding conditions.



Kripal Sinh Parmar-
Business Head- ABS Gujarat

Supporting the site team was equally important. ABS arranged dedicated accommodation, cooking and essential facilities, daily HSE training through a dedicated HSE officer, and transportation between accommodation and site. With the next phase now progressing towards a goal of 500 turbines, the Khavda experience stands as a strong example of what disciplined execution, teamwork and organisational support can achieve.



BOLTING, SKILL AND SERVICE IN WIND









Sajesh Michael
Head- ABS Wind

Why is bolting such a critical process in wind turbines?
Bolting directly influences joint integrity, safety and turbine reliability. Achieving the required bolt load depends on several factors from bolt quality and lubrication to tool selection, calibration, tightening method and sequence.

Do typical bolting procedures address everything required for bolt-load accuracy?
A comprehensive bolting procedure should consider all factors that can influence the final bolt load, including joint conditions, lubrication, tool accuracy and field-related issues.

How important is technician skill, and how does ABS help develop it?
Technicians need to understand the joint, tool operation and bolting methodology. ABS combines practical and theoretical training covering safe tool operation, tool maintenance, torque–bolt load relationship, torque-angle methodology and controlled bolting fundamentals.

What does responsive service mean at ABS?
When a project is waiting for its tools, turnaround becomes critical. We have handled customer vehicles carrying more than 50 tools, prioritised the repairs and returned them in the same vehicle. We also provide 24×7 telephone support, including late-night troubleshooting, which can often help resolve issues quickly and reduce site downtime.

How does ABS take service closer to wind customers?
Our service centres in Tamil Nadu, Gujarat and Maharashtra provide regional support. Our ABS Mobile Service Van follows a planned quarterly programme across six states, bringing inspection, troubleshooting, repair and calibration support closer to major customer sites.

What support can customers expect throughout the life of the tool?
Our involvement continues beyond the sale. Depending on the requirement, customers can access priority repairs, standby tools subject to availability, planned site visits and repair, replacement or buy-back options.

PREPARED FOR THE CLIMB

Training for competence. Safety for every site.
Wind work demands more than technical ability. Working at height, handling specialised equipment and operating in changing site conditions require people who can recognise hazards, follow the right procedures and respond responsibly when conditions change. Training provides the knowledge and practical skills needed to do that consistently.

As a GWO-certified training provider, ABS delivers Basic Safety Training (BST) within its approved scope. ABS also conducts ECITB Mechanical Joint Integrity training covering manual and hydraulic torquing and hydraulic tensioning at its certified training centres in Maharashtra and Gujarat. The focus combines theory with practical application, helping personnel understand both how to perform the task and how to perform it safely.

Before work begins, our teams are prepared around the site conditions, equipment, scope of work and defined responsibilities. Because competence is not only about knowing the job—it is also about knowing how to carry it out safely.




TÜVINDIA
Certificate
ABS



SAFETY IN PRACTICE

Our ISO 45001:2018-certified Occupational Health & Safety Management System provides a structured framework for managing workplace risks and continual improvement. At site, this is supported through:

- Hazard identification and risk assessment
- Work-at-height and PPE practices
- Permit-to-work and toolbox talks
- Stop Work Authority and clear site communication
- Emergency response and HSE induction
- Safe operation, inspection and upkeep of tools

OPTIMISED TURBINE MODEL HYDRAULIC BOLTING TOOL KITS FOR INSTALLATION AND O&M

Specific tool kit available for 750 kW to 5 MW WTG

EXAMPLES:

3 MW CLASS

Application	ABS Model
Tower Bottom	HFMT 48
T1-T2	CNX 15 / E-RAD BLU 15K
T2-T3	CNX 11 / E-RAD BLU 10K
T3-T4	CNX 7 / E-RAD BLU 8K
T4-T5, T5-Nacelle, Yaw Caliper	CNX 4
Rotor	HSRT 48
Main Bearing + Gearbox mounting	HFMT 48
Main Frame Nacelle	CNZ-2 with 55mm Link
Blade Pitch Bearing	HFMT 36
For Tensioning	HFEL 1500 Electric Pump with hydraulic hose
For Torquing	HFEL 230 Electric Pump with hydraulic hose

5 MW CLASS

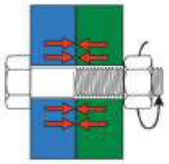
Application	ABS Model
Tower Joints & Nacelle	Tool CNX-7
T1 to T2	Tool CNX-20
T3 to T4	CNZ-5 with 55 MM Link / E-RAD BLU 4K
Rotor joint – 120 bolts	Tensioning Tool M36 Single Stage
Blade (03 Nos – 360 bolts)	Tensioning Tool M36 Multi Stage
Gear box – 24 bolts	Tensioning Tool HFSRT-M45
Foundation – 160 bolts	Tensioning Tool HFST-12.5 M48 Foundation
Blade, Foundation, Gear box & Hub	Tensioning Electric Pump
Tower joints & Nacelle	Torquing Electric Pump
T3 to T4, T4 to T5	Socket 1-1/2" 55,60,70
T1 to T2 & T2 to T3	Socket 2-1/2" X 100

Note: The tool kits shown are suggestive and indicative only. Actual tool selection and configuration may vary depending on the respective wind turbine OEM, turbine model/variant, and application requirements.

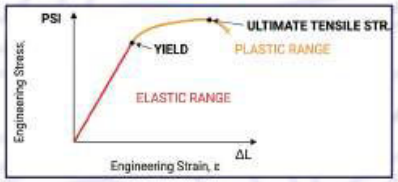
BASICS OF BOLTING

Function of Bolts and Nuts

Threaded fasteners are used across industry to assemble products ranging from pipelines to heavy-duty earth movers and from heat exchangers to bridges and many more. Their principal function is to create a clamping force across the joint which is able to sustain the operating conditions without loosening. Correctly tightened bolts make use of their elastic properties. When load is applied, the bolt stretches and tries to return to its onginal length. This creates compressive force across the joint members



Behavior of Bolts and Nuts

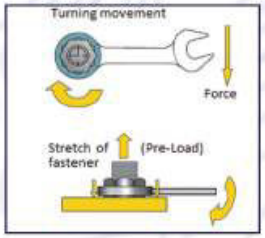


Hooke's Law of Physics

Hooke's Law of physics defines elasticity: The stress in a bolt is directly proportional to its strain. The stress strain curve of a bolt has an elastic range and a plastic range. In the elastic range Hooke's Law is true. All the elongation applied within the elastic range is released when the load is removed. When a bolt is stressed beyond maximum load under which a bolt will behave in an elastic manner, the elastic elongation changes to plastic deformation and the strain will no longer be proportional to the stress. The point where this permanent elongation occurs is called the yield strength. The further application of load takes the bolt to a point where it will continue to elongate until it finally breaks. The point at which the bolt breaks is called the tensile point. Different grades of bolt have different elastic ranges

Preload

The main purpose of a bolt and nut is to clamp parts together with the correct force to prevent loosening in operation. The term preload refers to the loading in a bolt immediately after it has been tightened. The amount of preload (residual load) is critical as the joint can fail if the load in the bolt is too high, too low or not uniform in every bolt.

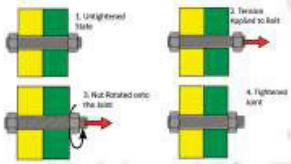


Torque Tightening

Torque is a measure of how much force is acting on an object which causes that object to rotate. The application of preload to a fastener by the turning of the fastener's nut is called torque tightening

. torque to stretch the bolt
. torque to overcome the friction in bolt and nut threads
. torque to overcome friction at the nut spot face (bearing contact surface)
Lubrication reduces the friction during tightening and hence is a major variable during torque tightening. Higher friction results in less conversion of torque to preload and vice versa.

STEPS IN TENSIONING



Bolt Tensioning

Tensioning is the direct axial stretching of the bolt to achieve preload. Inaccuracies created through friction are eliminated.
Tensioning requires longer bolts, and a seating area on the assembly around the nut.
Tensioning can be done using detachable bolt tensioners or hydraulic nuts. The entire load applied during stretching does not get converted to preload. There is "Load loss" in the process which is a loss of bolt elongation depending on factors such as grip length and embedding of the nut into the contact area ofthe joint. Load loss is accounted for in calculation and is added to the preload value to determine the initial Applied Load. The preload depends on applied load and load loss factor
Torque is a measure of how much force is acting on an object which causes that object to rotate. The application of preload to a fastener by the turning of the fastener's nut is called torque tightening. The amount of preload created while torque application is largely dependent on the effects of friction. Torque applied to nut is distributed in 3 ways.

WIND BOLTING APPLICATION















WIND BOLTING APPLICATION


TOWER JOINT


FOUNDATION BOLTING


PITCH BEARING JOINT


HUB TO ROTOR JOINT


LATTICE TOWER JOINT


LATTICE TOWER JOINT


BLADE JOINT

ABS WAY

The GOLD STANDARD in Bolting Solutions

The ABS Way is our commitment to complete customer care-bringing tools, expertise and services together as one connected ecosystem, by your side from the first conversation through every stage of the equipment's working life.



COMPLETE CUSTOMER CARE ECOSYSTEM

- Customer Engagement & Relationship Building
- Solutioning & Consultation
- Installation & Onboarding Support
- Post-Purchase Support & Issue Resolution
- Preventive Maintenance & Service Contracts
- Continuous Education & Value Addition

ABS PRESENCE IN THE INDIAN WIND INDUSTRY

adani Renewables
ENVISION
GE
INOXWIND
SANY
SENVION wind energy solutions
VENWIND refex A Hitachi Group Company
JSW
SUZLON
Vestas
ReNew
FLENDER
ZF
RENOM Renewing Our Future
SANGREEN FUTURE RENEWABLES
sembcorp
RAMEEZ ENGINEERING COMPANY (P) LTD
AVAADA
greenko
TATA POWER
HEFT ENERGY
CleanMax
BluPine Energy



ABS wind customer
ABS offices in India

RAD® TORQUE SYSTEMS

ABS ADVANCED BOLTING SOLUTIONS



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ABS BROCHURE
RAD BROCHURE