

**James Walker**<sup>®</sup>

# Assuring Joint Integrity in Wind Energy



## Assuring Joint Integrity in **Wind Energy**

At James Walker, we specialise in assuring the integrity of critical joints in wind turbines and towers...

Our technologies are also improving design parameters and performance...

- > **improving reliability**
- > **increasing safety**
- > **reducing costs**
- ...assuring integrity**

- > **higher rated turbines**
- > **higher rated towers**
- > **extended product life**
- ...enhancing design**



# James Walker®

## ‘100% reliable’

Assuring the integrity of all the joints in a wind turbine and tower is essential if reliability is to be maximised and maintenance and downtime reduced.

Our technologies assure the reliability of bolted joints, as well as improving the performance of critical seals.

RotaBolt® Tension Control systems uniquely assure that the correct design tension is achieved and maintained throughout the life of

bolted joints. Correct tension is essential in achieving complete reliability - traditional tightening procedures do not measure tension.

High efficiency Walkerseal® rotary lip seals also help to assure joint integrity and our unique on-site joining systems provide the sealing performance of an endless seal.

## ...assuring joint integrity



RotaBolt® 1





RotaBolt® 2

## 'fit and forget'

Assured reliability means turbine builders and operators can now realistically consider the development of 'fit and forget', maintenance regimes for bolted joints.

With RotaBolt systems, time consuming and costly bolt checking based on re-tightening can be replaced with instant, finger-tip checks of tension.

It takes 10 hours to check just 10% of the bolts in a tower using traditional re-tightening - and

then it's not an assured check of tension.

With RotaBolt it takes just 1/2 hour to carry out a complete, assured check of every single bolt.

Using Walkersele's unique on-site joining systems, a main rotary seal can be replaced in 1/2 hour, delivering the same sealing integrity as an endless seal.

**...reducing costs**





The Vision

O-RING  
M0602400

SLEWING RING  
M0602100

## 'safety and performance'

Our technologies deliver safe, reliable joints as well as improving design efficiencies, machine rating and production build.

Applying tension control technology can reduce bolt content by up to 50%. This impacts on design and performance, reducing both production and installation costs - less holes to be drilled, less tightening and less checking.

Higher rated turbines and towers can be produced - RotaBolt tension control fasteners

HEX NUT M0602100

have Germanischer Lloyd approval covering wind turbines, as well as DIBt approval for tower constructions.

Product life is extended by using Walkersele high performance sealing technology on main shafts, gearboxes, blade roots and yaw bearings, and using Tico® anti-vibration mountings on gearboxes.

## ...enhancing design



Walkersele® OSJ2



RotaBolt®  
Tension Control

# James Walker®

**For further information visit:**

**[rotabolt.co.uk/windenergy](http://rotabolt.co.uk/windenergy)**

or contact:

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