

# Using Impact Wrenches for Scaffolding Activity

Edition  
**03**



## The Scaffold Standard

### Using Impact Wrenches for Scaffolding Activity

The use of impact wrenches for scaffolding activity has increased greatly over recent years. Those that use them and promote or allow their use, point towards increased productivity and a benefit for those that have previously encountered health issues with the upper limbs, amongst the main benefits.

Clearly, there are advantages of using impact wrenches in preference to traditional scaffolding spanners. However, those that use wrenches or employ workers who use them, should be aware that impact wrench use should only be permitted when certain safety and occupational health considerations have been made.

As with all scaffolding activity, a risk assessment will help in identifying what could go wrong and what control measures are required.

## The Risks

The risks arising from working with impact wrenches can be broadly divided into three main categories. These are:

1. Occupational Health
2. Mechanical
3. Electrical



Risks to health in the scaffolding and construction sectors have long played second fiddle to safety risks and these have often been overlooked. However, the enforcing authorities, including the Health & Safety Executive are placing an ever-increasing emphasis on the harmful health effects of construction work.

There are two separate elements of impact wrench use that can have an adverse impact on the user's health and these are vibration and noise. Both of these matters are covered by specific legislation ([The Control of Vibration at Work Regulations](#) and the [Control of Noise at Work Regulations](#), respectively) and both require that an assessment of the risks be made.

## Vibration

Prolonged and uncontrolled use of power tools that vibrate, can result in a condition known as **Hand Arm Vibration Syndrome (HAVS)** – a series of painful and disabling disorders of the blood vessels, nerves and joints.

The level of vibration created by the use of an impact wrench used for scaffolding activity, can primarily be attributed to the particular model of wrench being used.

# The Scaffold Standard

## Using Impact Wrenches for Scaffolding Activity

The manufacturer's instructions for use that are supplied with each newly purchased wrench will provide specific information on the vibration rating of the model in concern, and this information is key in making an assessment of the levels of vibration to which workers may be exposed.

The calculation as to whether those levels are acceptable is mathematical and is based on the particular model and the amount of 'trigger time' or impact wrench operation time.

Tool or process name	Vibration magnitude m/s <sup>2</sup> r.m.s.	Exposure points per hour	Time to reach EAV 2.5 m/s <sup>2</sup> A (8)		Time to reach ELV 5 m/s <sup>2</sup> A (8)		Exposure duration hours/minutes	Partial exposure m/s <sup>2</sup> A (8)	Partial exposure points
			hours	minutes	hours	minutes			
Using Impact Wrench	11.5	265	23	1	31	4	8.1	1059	
Tool or process 2									
Tool or process 3									
Tool or process 4									
Tool or process 5									
Tool or process 6									

**Instructions for use:**  
 Enter vibration magnitudes and exposure durations in the white areas  
 To calculate, press <Enter>, or move the cursor to a different cell  
 The results are displayed in the yellow areas  
 To clear all cells, click on the <Reset> button  
 Tick the <Lock tool or process name> check box to prevent <Reset> clearing these cells  
 For more information, click the <Help> button

Zoom to fit  
 Help  
 Reset

Daily exposure m/s<sup>2</sup> A (8) 8.1  
 Total exposure points 1059

**WARNING: Exposure above  
 the VAB ELV limit zone.**

To assist those that are required to undertake this assessment, the HSE have produced a free-to-use online tool, which can be found [here](#).

After the appropriate data has been entered, the calculator will indicate whether these levels are acceptable and this information should be used as the basis of the risk assessment.

## Noise

Continual exposure to high levels of noise can result in hearing loss and other conditions such as tinnitus, which manifests itself by a ringing, buzzing, or roaring in the ears or head and this can be short term or last throughout the remainder of the sufferer's life.



Noise levels will vary and will be affected by the particular type of wrench being used and the environment in which it is being used. Although the manufacturer may well provide noise data within their product specifications, it should be remembered that this was likely drawn from tests carried out in laboratory conditions,

so it should be used as the basis for noise assessments with a degree of caution. Measuring noise levels helps to establish what hearing protection arrangements are required, but to do so accurately requires specialist equipment, because a reading taken in one area will likely differ for the same activity being carried out elsewhere. This may mean that assessing noise levels for many different workers in different areas is impractical and therefore, it may be necessary to work on the default assumption that hearing protection is required for all activities involving impact wrenches.

## Mechanical Considerations

An increasing number of impact wrench manufacturers support the use of their products in a scaffolding application, but this is not currently the case across the board. Therefore, it is imperative that the wrench and any accessories selected are appropriate for the application in which they will be used.

The points overleaf should be considered when selecting an impact wrench to be used in scaffolding activity:



## The Scaffold Standard

### Using Impact Wrenches for Scaffolding Activity

#### Does the wrench have a battery power indicator?

Wrenches without this facility can deliver a false-positive result, in that the fitting may incorrectly appear to be adequately tightened.

#### Does the wrench have a torque setting that is suitable for scaffolding activity?

Wrenches without a torque setting could overtighten fittings, strip threads or shear the bolt altogether, or even distort fittings and fail to achieve the minimum torque of 50Nm, as specified by EN74.

#### Is the socket specifically impact-rated?

Only impact-rated sockets should be used as they are harder wearing. Non-impact rated sockets can shatter during use.

#### Are the correct fittings being used?

Some fitting manufacturers specify that impact wrenches should not be used with their fittings, and doing so could create product liability issues.

Impact wrenches must never be used with pressed steel fittings as they can easily squash the fitting gate.



#### Does the wrench have a 'Reverse Rotation Auto-Stop' Mode?

Modern wrenches are fitted with this feature and it prevents nuts from being wound off the bolt during loosening.

#### Is the Wrench suitable for use in wet conditions?

Some manufacturers specify that their products should not be used in wet conditions and this may mean they are not suitable for outdoor use during periods of rain.

## Other Considerations

Even when the wrench is self-supplied by the Scaffolder, his or her 'employer' maintains the statutory duty to ensure that it is fit for purpose and is maintained in a suitable condition. It is recommended therefore that any such equipment is captured by the employing organisation's work equipment inspection and maintenance regime.

As with all work equipment, impact wrenches must be used in accordance with the manufacturer's instructions for use.

It is recommended that prior to using an impact wrench for the first time, workers should test their ability to tighten and loosen fittings using wrenches in a non-operational environment. This will ensure that they can correctly judge the amount of trigger time required and that they get a general 'feel' for the use of wrenches when working at a 'live' site.

## Further Reading

[NASC Impact Wrench Statement](#)  
[HSE Vibration at Work Microsite](#)  
[HSE Noise at Work Microsite](#)

# The Scaffold Standard

## Using Impact Wrenches for Scaffolding Activity

Feedback:

### Briefing Acknowledgement

Name	Date	Signed