



THE EUROPEAN  
MATERIALS HANDLING INDUSTRY



A brief guide  
for identification  
of non-compliant  
construction  
machinery



Is this  
**tower crane**  
compliant with  
European legislation?

# INTRODUCTION

Construction equipment placed on the EU and EEA market for the first time must comply with the relevant EU legislation – and meet all valid safety and environmental requirements. Machinery which does not fulfil these requirements is non-compliant and is not allowed to be placed on the EU market.

This guideline is meant to help to easily distinguish between compliant and non-compliant machinery. It describes only those essential criteria which can be checked even without in- depth knowledge and technical information. Thus, this brochure is not meant to be comprehensive but is designed to act as an “early warning” tool. However, if one or more items are out of line with the criteria then it is likely that you have non-compliant equipment.

The import of non-compliant construction equipment into the EU, and its sale and use, remains a major problem for the European construction equipment industry. It is a source of unfair competition and compromises bona fide supplier's ability to found R&D. This in turn threatens the competitiveness of the European construction equipment industry and the jobs it provides. Accidents with non-compliant machines are more likely to happen and they often do not meet the environmental standards demanded by the EU.

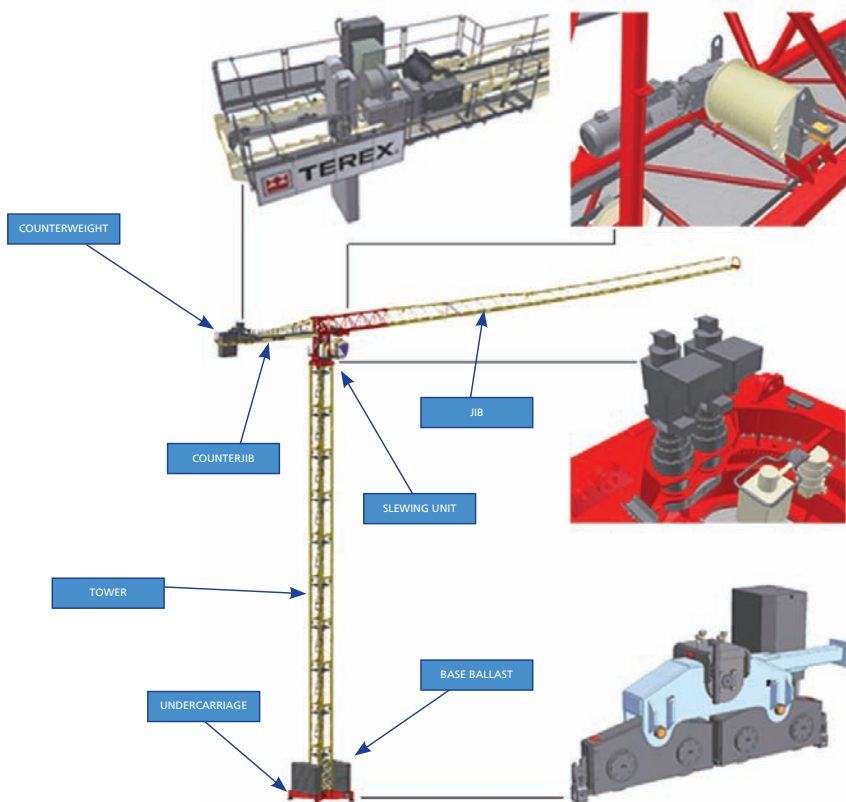
In particular, a tower crane is a machine that can make use of modular components. References about the use of modularity will be also provided in this document.

CECE, as the recognized organization representing and promoting European construction equipment manufacturers and related industries, calls upon all responsible authorities and stakeholders to work together to rid the EU of non-compliant construction equipment.

# QUICK REFERENCE GUIDE TO NON-COMPLIANCE TOWER CRANES

Most common items of non-compliance with EU regulations:

- › Marking
- › Documents
- › Combination of components
- › Noise emissions
- › Additional safety equipment
- › Warning / labels
- › Instructions



# 1. MARKING

All construction machinery placed on the EU market must be marked clearly and permanently in one of the languages of the Community.

## Compliant examples

The following information must appear in the plate:

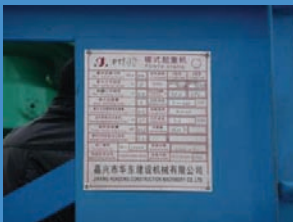
- Name and address of the Manufacturer (and his EU representative, if appropriate)
- The CE mark
- Designation of the machinery
- Serial number of the machinery
- The year of construction
- Designation of series or types

### Compliant example



The following is an example not meant for the European market

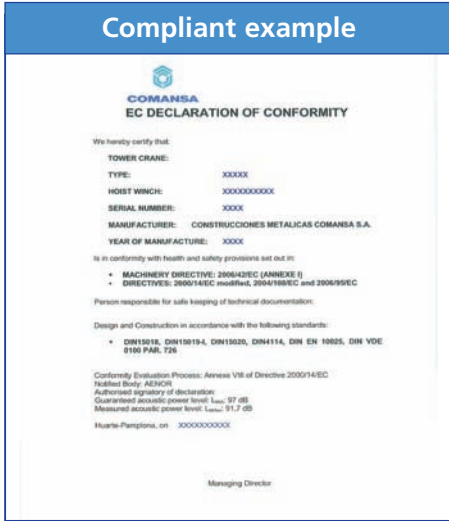
### Non-compliant example



- Not in a Community language
- No CE mark
- No address
- No year of construction

## 2. DOCUMENTS

All construction machinery placed on the EU market first time must be **accompanied** by a **Declaration of Conformity**. The Declaration of Conformity for different directives can be separate.



The Declaration of Conformity is a critical document which shows which **EU directives** the machine complies with. It must be in a **Community language** and must include at least the following:

A statement that the machine meets the requirements of the following EU directives:

- 2006/42/EC – the Machinery Directive;
- 2000/14/EC – the Directive on Noise Emissions in the Environment by Equipment for Use Outdoors;
- 2004/108/EC – the Directive on Electromagnetic Compatibility.
- 2006/95/EC – the Directive on Low Voltage
- The name and address of the manufacturer and of his EU representative.
- A description of the machine, including designation and serial number. The serial number on the Declaration of conformity must be the same as the one marked on the machine
- Name and address of the person in the EU who can be contacted to compile the technical file about the safety of the machine, if requested to do so by a suitable EU authority.
- The name and address of the person who keeps the technical documentation of the noise emissions and the name of the Notified body involved, where appropriate.
- The conformity assessment procedure followed for noise emissions (e.g. Annex VI, Procedure 1)
- The measured sound power level
- The guaranteed sound power level.
- The date and place of the declaration
- Identity and signature of the person making the declaration.



Declaration referred to a wide range of models and not to a serial number!

**Format not compliant.**

There is no name and address of the person in the EU who can be contacted to compile the technical file about the safety of the machine, if requested to do so by a suitable EU authority.

# 3. COMBINATION OF COMPONENTS

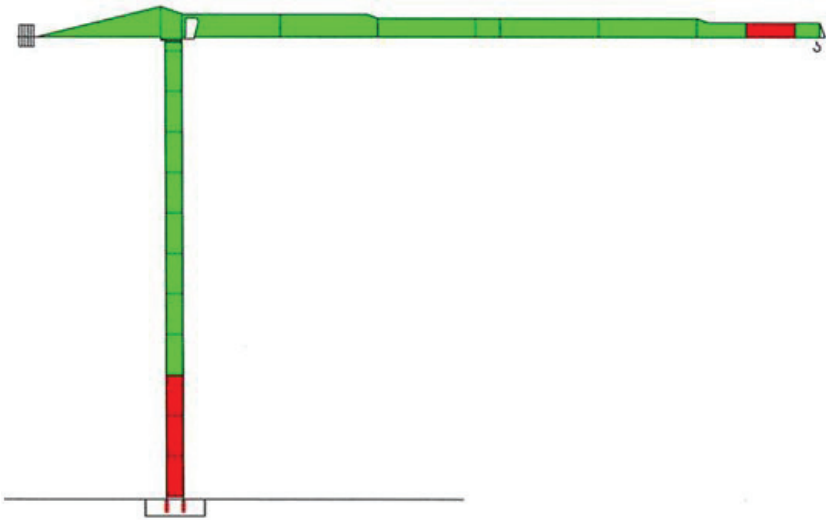
Tower cranes are erected with combined components.

Compliance of such applications is guaranteed as long as the components are approved by the manufacturer of the crane. The combination of components from different manufacturers undermines the compliance of the crane.

Special attention should also be paid to the inclusion of non compliant and/or counterfeited components.

Most frequent cases of combined components		
<ul style="list-style-type: none"><li>• Foundation anchors</li><li>• Slewing rings</li></ul>	<ul style="list-style-type: none"><li>• Tower sections</li><li>• Mechanisms</li></ul>	<ul style="list-style-type: none"><li>• Jib sections</li></ul>

## Example of frequently replaced tower cranes parts.



Three mast sections added at the base to increase the tower height  
One jib section added to achieve a longer jib length.  
Anchor feet not original

Manufacturer A Manufacturer B

## 4. NOISE EMISSIONS

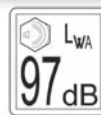
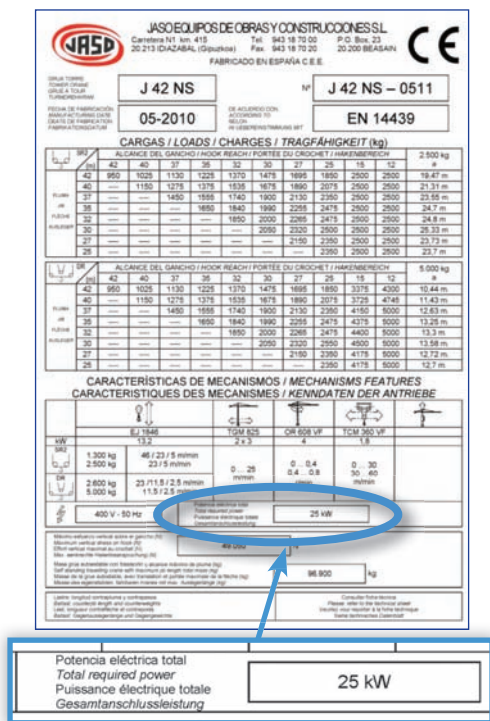
All tower cranes must be marked with their guaranteed sound power level. The maximum allowable guaranteed sound power level depends on the installed power.

Net installed power (kWatt)		Sound power limit (dBA)
From	To	
1	3,1	96
3,2	31	97
32	316	98
317	3162	99

A machine with installed power of 25kWatt must have a guaranteed sound power of no more than 97dB. The example below complies.



The sound level is printed in decals. The sound power level is generally positioned at the bottom of the crane and in the crane's upper part



## 5. ADDITIONAL SAFETY EQUIPMENT

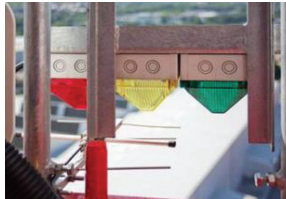
The following additional safety equipment ensures the tower crane is compliant with the relevant legislation. They can be easily checked:



5.1 The use of the anemometer is mandatory for self-erecting tower cranes more than 30 m hook height and top slewing tower cranes.



5.2 The jib trolley shall be equipped with a basket



5.3 The cranes operated by remote control are to be provided with outside light indicators to inform about the machine condition. Green indicator has to be located in a way that it can be seen by the persons next to the crane.



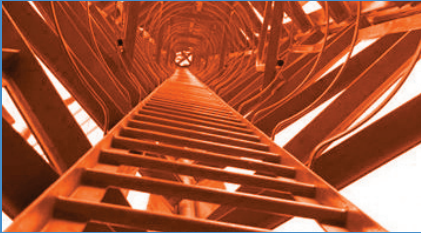
5.4 Toe-boards, handrails and access

Toe-boards should prevent objects from falling down. In the picture a compliant example is provided: the toe-boards is high enough to prevent it (minimum 50 mm, as a general rule 100 mm).

**Some non-compliant examples.**

**1. No rest platforms in the tower. VERY DANGEROUS**

**Non-compliant example**



The tower should have rest platforms at least every 6 meters

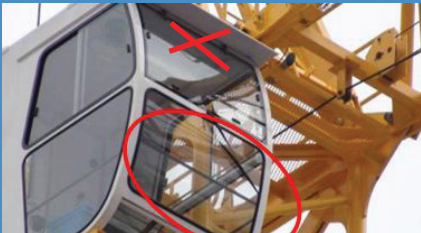
**Compliant example**



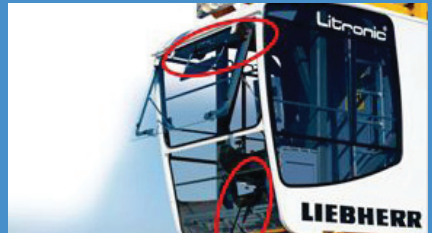
Rest platforms present in the tower, avoiding operators and objects to fall down

**2. Lack of cabin windscreen wipers implies poor visibility**

**Non-compliant example**



**Compliant example**



**3. Gaps in walkways: wide gaps can cause falling hazard.**

**Non-compliant example**



Walkways should always have gaps tighter than 200 mm. The gap showed in the picture can be dangerous for the operator.

**Compliant example**



# 6. WARNINGS / LABELS

Information and warnings on machinery must be in pictograms or in a language of the Community for the country where the machine is placed on the market or put into service.

## Compliant example

A black and white label for a crane. On the left, it says 'GRUA J300'. On the right, it says 'CRANE J300'. In the center, there is a table with multiple columns and rows of technical specifications. At the top right, there is a CE mark and some text in a small font.

A white label with a red border for a crane. At the top, it says 'JASO' and 'GRUA J300.16 SR/DR'. There is a logo on the right. The label contains three columns of data, each with a heading 'PLUMA/JIB' followed by a height and a load capacity. The data is as follows:

PLUMA/JIB 75 m	PLUMA/JIB 70 m	PLUMA/JIB 65 m
75m-2.000Kg	70m-2.000Kg	65m-2.900Kg
14,8m-16.000Kg	15m-16.000Kg	16,2m-16.000Kg
PLUMA/JIB 60 m	PLUMA/JIB 55 m	PLUMA/JIB 50 m
60m-3.700Kg	55m-4.500Kg	50m-5.300Kg
17,7m-16.000Kg	18,7m-16.000Kg	19,3m-16.000Kg
PLUMA/JIB 45 m	PLUMA/JIB 40 m	PLUMA/JIB 35 m
45m-6.400Kg	40m-7.400Kg	35m-8.000Kg
20,2m-16.000Kg	20,3m-16.000Kg	21m-16.000Kg

- The label should indicate the name of the crane.
- Maximum lifted loads diagram: the plate should always indicate the loads to be lifted by the crane.

## Non-compliant example



Plate not in European language if not provided with original translations.

In such plate it is also impossible to identify the necessary information that have to be included in the warnings and labels.

## 7. INSTRUCTIONS

[illegible]

Instructions on the safe use are a requirement of EU law and must accompany the machine.  
The basic requirements are:

- They must be in the language of the member state where the machine is placed on the market or put into service
- They must be either “Original instructions” or a “Translation of the original instructions”, in which case the translation must be accompanied by the original instructions
- The words “Original instructions” must appear on the language version(s) verified by the manufacturer or his authorised representative. Where no “Original instructions” exist and translations have been provided, the translations must bear the words “Translation of the original instructions”
- The instructions must cover the intended use of the machinery and also any reasonably foreseeable misuse
- The instructions must include the name and address of the manufacturer
- The instructions must include a repeat of the machine markings except for the serial number
- The instructions must include a repeat of the main items of the Declaration of Conformity
- The instructions must contain measurements results for noise levels in the control station for this type of machine.
- Instructions must also contain the instructions on how to erect, operate, maintain and dismantle the crane.

## Attention

Tower cranes height can often be increased by means of climbing procedures (so called top/external climbing or bottom/internal climbing). In case a tower crane is climbed, instructions for such operation must also be provided.

## **CECE**

### **Committee for European Construction Equipment**

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