





ContiTech Rubber Industrial Kft. Hose Technical Department	 <b>CONTITECH</b>	
<b>HANDLING</b>	Doc. No.:	<b>TKO AS3 Addendum 1</b>
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	Date:	<b>03.03.2010</b>


# SHORT INSTRUCTIONS FOR THE USE OF SWAGED ROTARY DRILLING AND VIBRATOR HOSES

ACC. TO API SPECIFICATION 7K / ISO 14693

and

API RECOMMENDED PRACTICE 7L

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## 1. INTRODUCTION

The objective of this procedure is providing the users with the most important special knowledge for proper handling, storage, use and inspection of swaged rotary drilling and vibrator hose assemblies.

The hoses can be supplied with API monogram if the specification of the hose is included in the API Specification 7K / ISO 14693 standard, and are covered with prototype tests acc. to FSL1 or FSL2.

The operating limits, inspection, care and use of rotary drilling and vibrator hoses are covered in API RP 7L Addendum 2. Detailed recommendations can be found in the standard about determination of hose length, allowed end connection types in the function of working pressure, design of safety clamps, right handling of hoses and others. This recommended practice is a necessary completion of API Specification 7K / ISO 14693 standard.

Please ask for a more detailed general publication for the handling, inspection, and use TKO AS0 and for rotary hoses TKO AS3 -if it is not yet present at the user- at the following addresses. Any other information is available there as well:

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## 2. HANDLING

Lifting the hose at the safety clamp and chain is not allowed. The hose assembly should always be lifted by the lifting straps or by factory provided lifting elements. In order to avoid kinking, remove the hose from its crate and lay it out in a straight line if possible. After that, lift it by means of a lifting strap fixed near one end of hose. Rotate the crate while removing the hose (See Figure 1).

Rotary hoses of length up to 20 ft may be moved using a beam or a simple bar for support (see Figures 2 & 3), but from 20 ft to 40 ft long hoses may be moved only using a beam. Use straps to secure the hose to the beam at several points. Leave no more than 3 feet of hose overhanging at either end. Choose the support beam carefully, to ensure it is strong enough for the weight. Once the hose is attached to the beam, the beam may be lifted using a crane or forklift.

Mishandling (see Figures 6 through 10) may result in crushing or kinking of the hose, causing severe damage to the hose reinforcement. If that has happened, the hose should be removed from service.

The end connections of the hose should always be protected from damage due to sliding, abrading or striking against objects.

Handling the hose with a winch, hanging the hose from a truck gin pole, or placing heavy objects on the hose are not recommended. All of them can cause failure of the hose.

Whenever the hose has been removed from service and set aside for any reason, it should be protected from damage.

The safety clamp should be attached min. 150 mm (general) or 8 inches (US version) below the end of the coupling. That will place the edge of the clamp just behind the "Attach safety clamp here" label (see Figures 4 & 5).

## 3. SERVICE INSPECTION


For general instructions see:

INSPECTION GUIDELINES FOR HP DRILLING AND PRODUCTION HOSES, Doc. No.: ISS-059

Special areas of inspection:

- Any fluid in the venting hole
- Any bulge near the insert
- Permanent relative movement between hose body and coupling inward end


If any of the above damages are present, the hose should be removed from service.

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**GUIDELINES ON STORAGE, HANDLING, AND TRANSPORTATION**



**Figure 1:** Correct way of lifting/installing by lifting straps on hose


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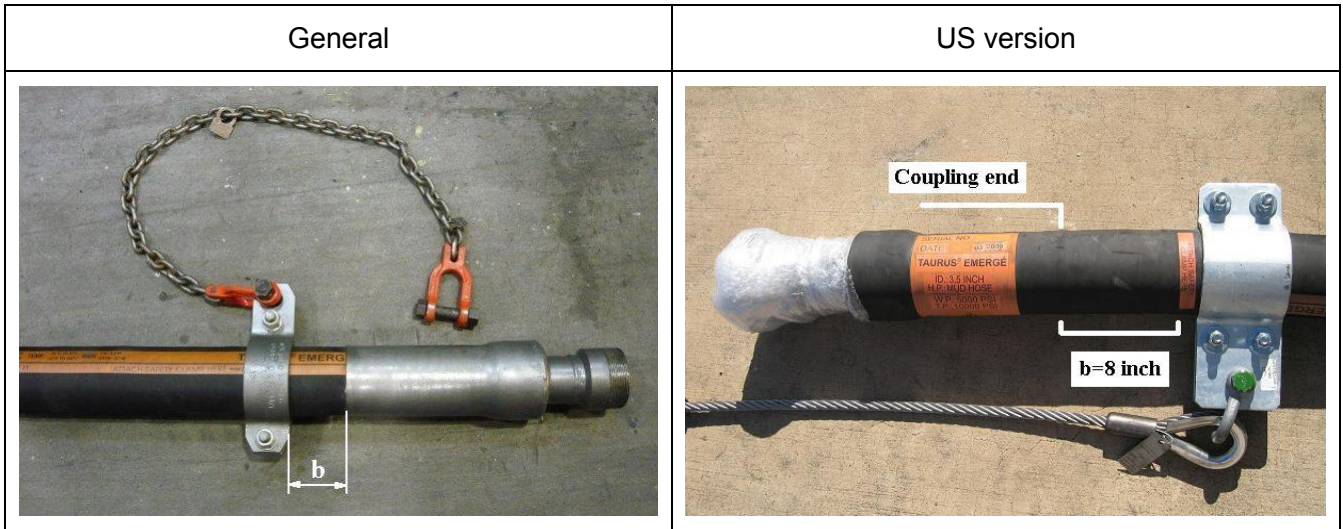


*Figure 2: Using a lifting beam with straps to lift a hose.*



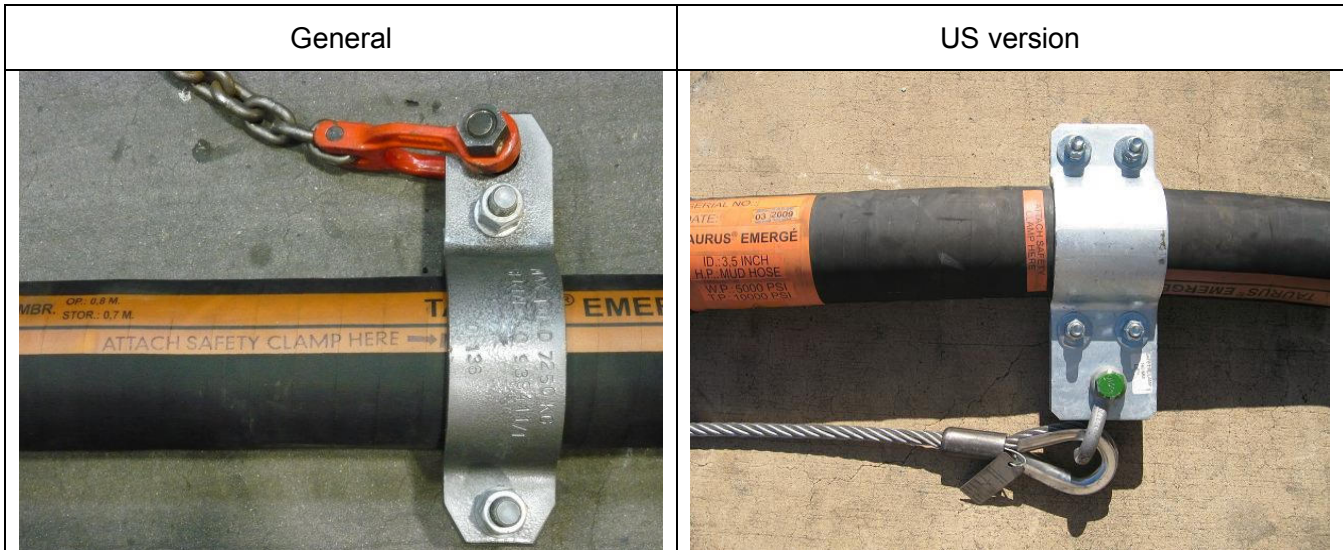
*Figure 3: Using a lifting bar with straps and shackles to lift a hose.*

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**Figure 4:** Swaged hose assembled with safety clamp and safety chain  
Safety clamp correct position specified by API Spec 7K / ISO 14693

Rotary drilling hose:  $b=150\text{ mm to }460\text{ mm}$   
Vibrator hose:  $b=150\text{ mm to }250\text{ mm}$



**Figure 5:** Location of safety clamp marked by the manufacturer:  
“ATTACH SAFETY CLAMP HERE”

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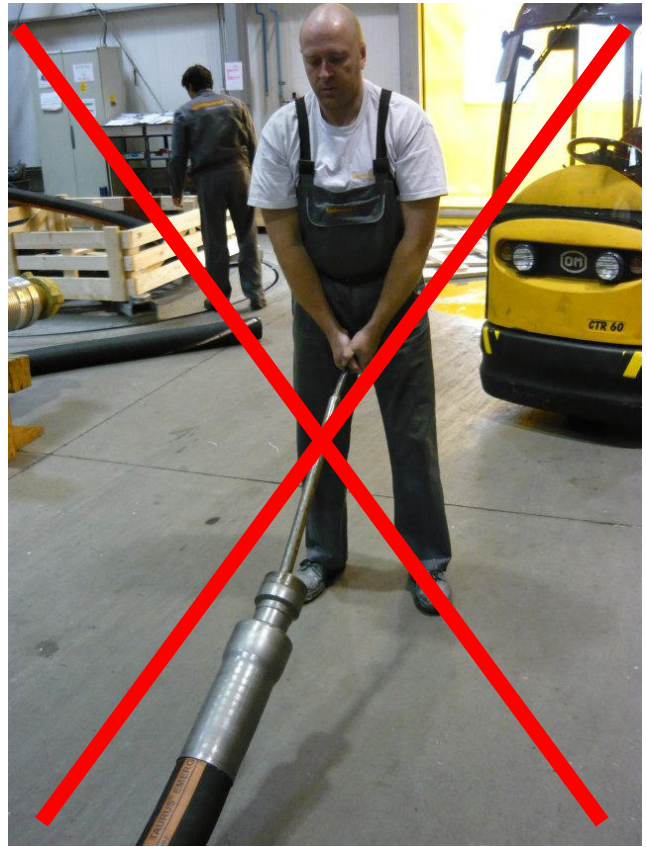
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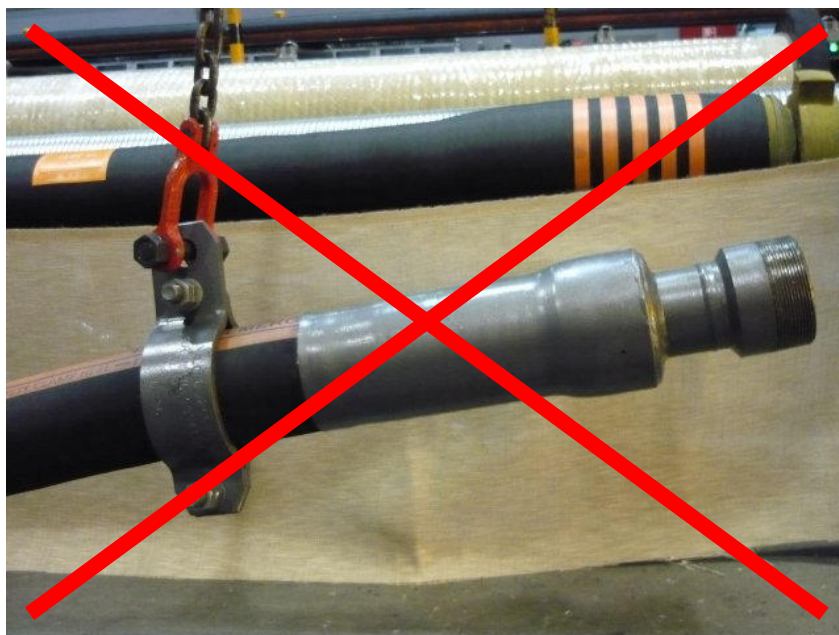
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**Figure 6:** Inadmissible dangerous mode of transport by dragging hose across the ground



**Figure 7:** Inadmissible dangerous mode of handling, moving of hose with metal lever



**Figure 8:** Incorrect way of hose lifting by its safety clamp (NB: The hose must not be lifted via the Safety Clamp as this is likely to induce over bending and stressing of the end connection)

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**Figure 9:** Incorrect moving and lifting of swaged hose



**Figure 10:** Incorrect installation of hose (touch down effect) The hose is subjected to abrasion over bending and undue stresses in the hose body (i.e. compression)

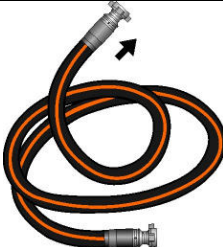
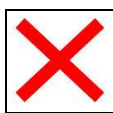



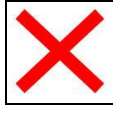
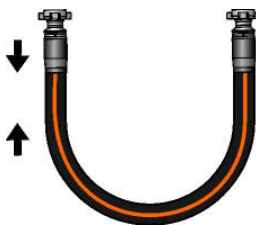


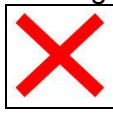
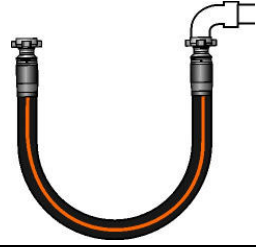


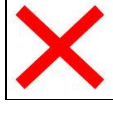


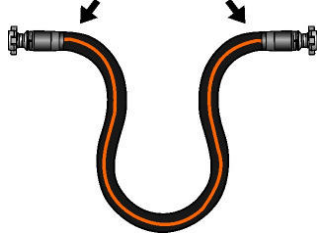
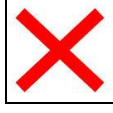
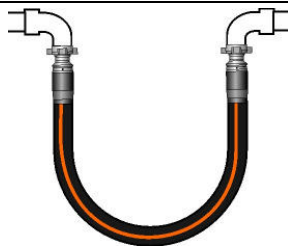


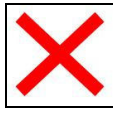


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**GUIDELINES FOR HOSE INSTALLATION**

	<b>WRONG</b>		<b>RIGHT</b>
	Danger of twisting and kinking 		Rolling up and out correctly 
	Kinking immediately behind the couplings 		Keep at least an unloaded straight piece of min. 5x the nominal diameter 
	Too strong bending behind the couplings and exceeding the bending radius 		Use bend piece and fit hose U-shaped 
	Too strong bending behind the couplings 		Use bend piece and fit hose U-shaped 
	Too strong bending behind the couplings and exceeding the bending radius 		Use bend piece and fit hose U-shaped 
	Too strong bending behind the coupling 		Fit 90° knee 

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	<b>WRONG</b>		<b>RIGHT</b>
	Kinking 		Use hose saddle 
	Axial load 		Use bend pieces and fit hose U-shaped 
	Too strong torsion 		Make connections in one line 
	Torsion 		Hose and direction of movement must be in one line 
	Sagging 		Use support 