

BELGIAN ASSOCIATION OF CHEMICAL DISTRIBUTORS



## **GUIDELINE FOR COUPLINGS USED DURING (UN)LOADING OF BULK CHEMICALS**

Auguste Reyerslaan, 80  
B-1030 Brussel

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# COUPLING GUIDELINE

## 1. Introduction

Continuous efforts to enhance safety during transport of chemicals and the associated handlings are part of the overall aim to improve the safety performance of both the chemical industry and the transport industry.

Analysis of accident statistics indicates that a substantial number of transport related incidents happen during loading and unloading operations. It is therefore essential that proper use is being made of appropriate equipment during these operations.

One of the burdens that the transport companies are confronted with is the wide variety of couplings that are used at (un)loading stations.

This Guidance is of a voluntary nature and individual companies may decide to apply the Guidance in full or partly in accordance with their own judgment and taking into account the specific circumstances and requirements.

Applicable national and international regulations, in particular chapters 4.2 and 4.3 of ADR should always be complied with as they take precedence over the recommendations made in the present Guidance.

## 2. Objective

The objective of the present Guidance is to provide recommendations on the use of couplings at (un)loading stations where commodity products are (un)loaded.

This Guidance should help in selecting an appropriate coupling for such products taking into account the specific properties of the product(range), the throughput and other conditions.

The workgroup has made an evaluation based on compatibility of material with the product, safety, easy to use, potential leakages, availability,...

## 3. Scope

The scope of this Guidance is limited to couplings used for the loading and unloading of bulk commodity liquids in tank transport operations.

This Guidance does however not aim dedicated transports or specific products with a small (general) throughput nor does it provide an exhaustive overview of all existing couplings (such as dry-break and flange couplings).

It neither focuses on flanges nor gaskets. For the latter the technical specifications of the different producers should be respected.

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## 4. Table

Color code used in the table:

- Green : preferred coupling
- Yellow : acceptable coupling
- Orange : acceptable coupling but to be avoided because one (or more) of above mentioned criteria are negative
- Red : non-acceptable coupling

It is obvious that the work group strives towards a situation where only preferred couplings are used.

	TW (VK) DN50 SS	TW (VK) DN80 SS	Guillemin DN80 SS	Guillemin DN50 SS	KNZ – M88 PE CCW male	KNZ M110 PE CCW male	KNZ M88 PE CW male	KNZ M110 PE CW male	Camlock	Guillemin PE/PP	Storz
Metal depleting acids											
Other acids											
Alcalis											
Solvents											
Sodium hypochlorite											

## 5. Definitions

SS :	Stainless Steel	PE/PP :	Polyethylene, polypropylene
CCW :	Counterclockwise (left turning)	CW :	Clockwise (right turning)
Metal depleting acids :	Hydrochloric acid, Sulfuric acid (con. < 70%), Zinc Chloride, Ferric Chloride, Polyaluminiumchloride (PAC, ...	Other acids :	Phosphoric acid, Nitric acid, Sulfuric acid > 70 %
Alcalis :	Caustic soda, Potassium hydroxide, Ammonia solution	Solvents :	Hydrocarbons

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## 6. Type of couplings

		
<p>TW : TankWagen coupling (German coupling) VK : Male</p>	<p>TW : TankWagen coupling (German coupling) MK : Female (side tankcar)</p>	<p>Guillemin : French coupling, raccord pompier</p>
		
<p>KNZ : AKZO coupling</p>	<p>Camlock</p>	<p>Storz</p>