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**Working Party on the Transport
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**Joint Meeting of the RID Safety Committee
and the Working Party on the Transport of
Dangerous Goods**

(Geneva, 14-18 September 1998)

**DESIGN CRITERIA FOR THE FASTENING OF MULTIPLE ELEMENTS
ANNEX B 1A) AND B 1B)**

Transmitted by the European Industrial Gases Association (EIGA) */

Introduction

Provisions are given in marginal 211 127 respectively marginal 212 127 for the design of the fastenings of shells.

In the case of battery-vehicles the marginal defines the design criteria for the fastenings of an assembly of several tanks only. The fastening of other elements of battery-vehicles such as cylinders, tubes, pressure drums or bundles are not covered.

Therefore the design criteria for fastenings of the elements have to be defined in an additional paragraph in marginals 211 220 and 212 220.

This should be done based on the experience with tanks. This means that the forces required for tank-vehicles should be taken into account for all other types of elements and the allowable stresses shall be less than the ones defined for the considered receptacle.

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Proposals:

The following paragraph should be added under marginal 211 220:

(3) Elements of battery vehicles and their fastenings shall be capable of absorbing under the maximum permissible load the forces defined in marginal 211 127 (1). Under each force the stress at the most severely stress point of the element and its fastening shall not exceed the value σ defined in marginal 211 220 (2) for cylinders, tubes, pressure drums and bundles of cylinders and in addition to the value of σ defined in marginal 211 125 for tanks.

The following paragraph should be added under marginal 212 220:

(3) Elements of a multiple element tankcontainer and their fastenings shall be capable of absorbing under the maximum permissible load the forces defined in marginal 212 127 (1). Under each force the stress at the most severely stress point of the element and its fastening shall not exceed the value σ defined in marginal 212 220 (2) for cylinders, tubes, pressure drums and bundles of cylinders and in addition to the value of σ defined in marginal 212 125 for tanks.
