

## Translation of TRbF 20 (2008) Section 9.2.8

### 9.2.8 Protection of Recuperation and Waste Air Purification Plants:

- (1) The necessary preventive measures against flame transmission [*breakthrough*] must be provided [*graded*] based on consideration of the probability of the occurrence of an explosive atmosphere (zones) and the ignition possibilities existing in the recuperation or a waste air purification plant. The number of simultaneous independent measures for the achievement of flame transmission security is outlined in Table 9. A detonation safety device proven suitable for stable detonations in accordance with DIN EN 12874 [*The European Flame Arrester Standard*] may be regarded as an independent measure per sentence 2 [*Note: presumably the previous sentence*].

IGNITION SOURCES PRESENT IN THE RECUPERATION OR WASTE AIR PURIFICATION PLANT	NUMBER OF MEASURES TO BE TAKEN TO PROTECT AGAINST FLAME BREAKTHROUGH WHERE THE FOLLOWING DANGER AREAS ARE PRESENT IN THE EXHAUST AIR SYSTEM		
	ZONE 0	ZONE 1	ZONE 2
<b>NORMAL OPERATION</b> (e.g. burner flame)	<b>3</b>	<b>2</b>	<b>1</b>
<b>NORMAL OPERATING MALFUNCTIONS</b> (e.g. equipment category 3 marking "G")	<b>2</b>	<b>1</b>	<b>0</b>
<b>DURING ABNORMAL OPERATING MALFUNCTIONS</b> (e.g. equipment category 2 marking "G")	<b>1</b>	<b>0</b>	<b>0</b>

**TABLE 9**  
**[NUMBER OF] PREVENTATIVE MEASURES [REQUIRED]**

- (2) The discharge openings of the cleaned exhaust air by recuperation or waste air purification plants are to be secured against the backward transmission of flames into the recuperation or waste air purification plant. This is fulfilled, if the discharge opening [*outlet opening*] in accordance with the classification of the cleaned exhaust air is equipped with, in accordance with DIN EN 12874:

- For Zone 0, with a flame transmission safety device, deflagration-proof against atmospheric explosions and continuous burning-proof respectively.
- For Zone 1, with flame transmission safety device deflagration-proof against atmospheric explosions and continuous burning-proof for the explosion group II A

Refer to section 9.2.4.

If the discharge openings of the cleaned exhaust air of the recuperation and waste air purification plants are classified as Zone 2 or non hazardous [zone-free] , they do not need to be secured with a flame transmission safety device.