

SAFETY INSTRUCTIONS

DURAN® Erlenmeyer Flask

mL	NS Size ¹	DURAN® Erlenmeyer Flask		DURAN® SUPER DUTY Erlenmeyer Flask		DURAN® Erlenmeyer Flask, with NS
		narrow neck	wide neck	narrow neck	wide neck	
25	14/23	21 216 14 07 ³	21 226 14 05 ²	21 217 14 08	–	24 193 13 06
50	14/23	21 216 17 07	21 226 17 05	21 217 17 08	–	24 193 20 02
	19/26	–	–	–	–	24 193 17 09
	24/29	–	–	–	–	24 193 18 03 ²
	29/32	–	–	–	–	24 193 19 06
100	19/26	21 216 24 03	21 226 24 01	21 217 24 04	21 227 24 02	24 193 24 05
	24/29	–	–	–	–	24 193 26 02 ²
	29/32	–	–	–	–	24 193 27 05
125	–	21 216 28 06	–	–	–	–
150	–	21 990 27 02 ²	–	–	–	–
200	29/32	21 216 32 02 ²	21 226 32 09 ²	–	–	24 193 32 04 ²
	24/29	21 216 36 05	21 226 36 03	21 217 36 06	21 227 36 04	24 193 36 07
250	29/32	–	–	–	–	24 193 37 01
	45/40	–	–	–	–	24 193 38 04 ²
300	29/32	21 216 39 05 ²	21 226 39 03 ²	–	–	24 193 39 07 ²
	24/29	21 216 44 04	21 226 44 02	21 217 44 05	21 227 44 03	24 193 44 06
500	29/32	–	–	–	–	24 193 46 03
	45/40	–	–	–	–	24 193 47 06 ²
800	–	21 216 53 06	–	–	–	–
1000	24/29	21 216 54 09	21 226 54 07	21 217 54 01	21 227 54 08	24 193 54 02
	29/32	–	–	–	–	24 193 56 08
	45/40	–	–	–	–	24 193 57 02 ²
2000	–	21 216 63 02	21 226 63 09 ²	21 217 63 03	–	–
3000	–	21 216 68 08	–	–	–	–
5000	–	21 216 73 07	–	21 217 73 08	–	–

¹only for DURAN® Erlenmeyer Flask, with standard ground joint, ²not according to DIN, ³without retace code



**DURAN
WHEATON
KIMBLE**

Excellence in your hands

ATTENTION: The safety instructions are only valid for original DURAN® products. Therefore, please pay attention to the DURAN® trademark which guarantees proven DURAN® quality and highest safety during application.

Working under pressure and vacuum

- DURAN® Erlenmeyer flasks are in general not suitable for use under pressure or in a vacuum.

Temperature resistance

- The maximum permissible short-term operating temperature for DURAN® glassware is 500 °C.
- The maximum thermal shock resistance is $\Delta T = 100$ K.
- Only subject DURAN® glassware to sudden temperature changes within the recommended limit for thermal shock resistance ($\Delta T = 100$ K).
- Before using, the glass surfaces of the DURAN® Erlenmeyer flasks have to be checked for damages such as scratches, cracks or nicks. Damaged flasks must not be used for safety reasons.

Temperature resistance at low temperatures

- DURAN® can be cooled down to the maximum possible negative temperature and is therefore suitable for use with liquid nitrogen (approx. -196 °C). As the geometry influences the thermal properties, it is recommended that only small-volume glass vessels be exposed to very low temperatures. Moreover the thermal properties of

any screw caps or other components used must be borne in mind.

- When working at low temperatures, the effect of any expansion of a DURAN® vessel's contents must be borne in mind. Therefore the flask should be frozen slanted at an angle of 45°, filled to a maximum of $\frac{3}{4}$ of its capacity (to enlarge the surface area).
- During cooling and thawing ensure that the temperature difference does not exceed 100 K. In practice, therefore, stepwise cooling and heating are recommended.
- Frozen contents can be thawed by immersing the bottle in a liquid bath while taking care that the temperature difference between the contents and the bath does not exceed $\Delta T = 100$ K. This will ensure that the frozen material is warmed uniformly from every side without damaging the flask. The contents can, however, also be thawed slowly from above, so that the surface melts first, allowing the material to expand.

Autoclaving/Sterilisation

- DURAN® Erlenmeyer flasks are autoclavable/sterilizable.

Cleaning

- Cleaning should be carried out manually in a soaking bath or automatically in a dishwasher.

- To care properly for laboratory glassware, it should be washed immediately after use at low temperature, on a short cycle and with low alkalinity.
- Laboratory apparatus that has come into contact with infectious substances or micro-organisms should be treated in accordance with the current guidelines.

Manual cleaning

- The generally recognized method is to wipe and rub the glass with a cloth or sponge soaked in cleaning solution. Abrasive cleaners and abrasive sponges should not be used on laboratory glassware as these can damage the surface of the glass.
- Surface damage can affect the glass properties and limit further use of the product.
- Laboratory glassware should not be soaked for long periods in alkaline media at more than 70 °C since this can have an adverse effect on the printing and may cause glass corrosion. Also to be avoided is severe mechanical action e.g. scraping using a metal spoon.

Automatic laboratory glassware reprocessing

- When cleaning in a dishwasher, load so that there is no glass-to-glass contact (especially the threads) to avoid chips or abrasions.

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