

SAFETY INSTRUCTIONS

DURAN® Round Bottom Flask

DURAN® ROUND BOTTOM FLASK				
mL	NS size ¹	narrow neck	wide neck	with standard ground joint
25	14/23	–	–	24 170 13 07
	19/26	–	–	24 170 14 01
50	14/23	21 721 17 06	21 741 17 02 ²	24 170 20 03
	19/26	–	–	24 170 17 01
	24/29	–	–	24 170 25 09
100	14/23	21 721 24 02	21 741 24 07	24 170 25 09
	19/26	–	–	24 170 24 06
	24/29	–	–	24 170 24 06
	29/32	–	–	24 170 27 06
250	24/29	21 721 36 04	21 741 36 09	24 170 36 08
	29/32	–	–	24 170 37 02
500	24/29	21 721 44 03	21 741 44 08	24 170 44 07
	29/32	–	–	24 170 46 04
	45/40	–	–	24 170 47 07
1000	24/29	21 721 54 08	21 741 54 04	24 170 54 03
	29/32	–	21 741 55 07 ²	24 170 56 09
	45/40	–	–	24 170 57 03
2000	29/32	21 721 64 04 ²	21 741 63 06	24 170 63 05
	45/40	–	21 741 64 09 ²	24 170 64 08
3000	–	21 721 68 07 ²	21 741 68 09 ²	–
4000	45/40	21 721 71 09	21 741 71 05	24 170 72 07
5000	–	21 721 73 06 ²	21 741 73 02 ²	–
6000	–	21 721 77 09 ²	21 741 76 02	–
	–	–	21 741 77 05 ²	–
10000	–	21 721 86 02	21 741 86 07 ²	–
12000	–	21 721 87 05 ^{2,3}	–	–
20000	–	21 721 91 01 ^{2,3}	21 741 91 06 ²	–

¹ suitable for DURAN® Round Bottom Flasks with standard ground joint only, ² not according to DIN, ³ according to ASTM E 1403



**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

- DWK Life Sciences assumes no warranty or guarantee for the use of DURAN® Round Bottom Flask under pressure or in a vacuum.
- Please notice the general safety instructions.

Temperature resistance

- The maximum permissible short-term operating temperature for DURAN® glassware is 500 °C.
- The 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® round bottom 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 ½ 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® round bottom 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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