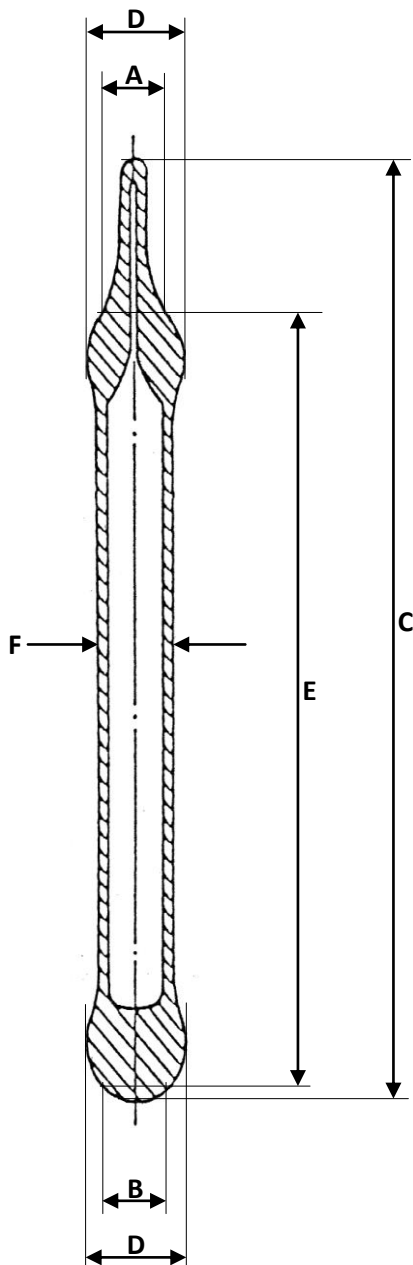


Drawing NOT to Scale



Technical Details

1. The 989 frangible Sprinkler Bulb is a 2.5mm diameter glass bulb, especially designed to meet the current requirements for *Early Suppression Fast Response (ESFR)*, residential and current *quick response* sprinkler heads. It is manufactured from a stock 2.5mm tube of manufacturer's tolerance.
2. During operation the liquid within the bulb will expand until the required operational temperature is reached. At this point the glass bulb will 'burst' and fracture into small fragments, allowing the sprinkler mechanism to operate.
3. This bulb is designed to fulfil the requirements of the standards detailed in the table below.
4. Precise calibration of the bulbs during the production process enables accurate operating temperatures to be achieved.
5. With the 20mm length of the parallel sides, the surface area of the glass is maximised to allow the optimum conductivity of heat from the surrounding air to the bulb liquid. This combined with the special formulation of thermally expansive chemicals enables significant improvement in response times.

Specification

Critical Dimensions (mm)	A = Typical Seat Dia.	B = Typical Base Dia.	C = Max Length	Dia. D = Max Strengthening	E Seating Length	F = Body Diameter
	2.0 to 2.3	2.0 Min.	23.4	2.8	20 Ref. Only	2.5 Nominal
Strength (Crush load) kN	Minimum (kN)			LTL Typical		
	1.8			N/A		
Note: Specific end user 'assembly loads' and the relevant Standard 'Load Safety Factors' shall be taken into account						
Nominal Temperature Range °C (±3.5%)	Orange	Red	Yellow	Green	Blue	
	57	68	79	93	141	
Response Data (RTi) - 68°C Bulbs	Typical Operating Time (UL)			Typical RTi (EN)		
	10 seconds (UL)			20 (EN)		
Standards Applicable	BS EN12259 (Fast Response), FM 2008 (ESFR), UL 1626 (Residential), UL 1767 (ESFR)					



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Title: Bulb Technical Criteria			Drw No. DI-989-01	
Change/Issue History		Rev	Date	Bulb Art. No. 989
Max Length C amended (was 25.0) & note added		A	16/07/08	
Correction of 'typo' error – Dia 'D' should be 2.8		B	23/09/08	
RTi & Operating Time update		C	16/10/08	
Clarification & update of parameters and data		D	18/11/08	
Authorised			Date 18/11/08	