

Gas welding equipment — Industrial manual and machine blowpipes for flame heating, flame brazing and allied processes

Gasschweißgeräte — Handgeführte Sonderbrenner und Maschinenbrenner für industrielle Prozesse zum Flammwärmen, Flammlöten und für verwandte Prozesse

Matériel de soudage à gaz — Chalumeaux manuels et chalumeaux à machine pour les procédés industriels de chauffage et brasage à la flamme et techniques connexes

ICS:

Descriptors:

Document type: Technical Report
Document subtype:
Document stage: Publication
Document language: E

Contents

Page

Foreword.....	4
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	7
4 Mixing systems	11
4.1 General.....	11
4.2 Injector blowpipe	11
4.3 Equal pressure blowpipe	11
4.4 Blowpipe with gas mixing nozzle.....	11
4.5 Blowpipe for aspirated air.....	11
4.6 Blowpipe with external mixing	13
5 Examples for the design of blowpipes	13
5.1 General.....	13
5.2 Manually guided blowpipes	13
5.3 Machine blowpipes – semi-automatic	15
5.4 Machine blowpipe - automatic.....	16
6 Hose connections	17
7 Materials	17
8 Description of operation and operational incidents	18
8.1 Description of mixtures and flames.....	18
8.1.1 Flame blow off at the flame.....	18
8.1.2 Neutral flame (only for acetylene)	18
8.1.3 Process-related flame (for all fuel gases)	18
8.1.4 Neutral mixture.....	18
8.1.5 Process-related mixture	18
8.2 Description of operational incidents	18
9 Marking	18
10 Requirements	18
10.1 General.....	18
10.2 Safety and operating requirements	19
10.2.1 Gas tightness	19
10.2.2 Valves.....	19
10.2.3 Adjustment of flame	19
10.2.4 Flow rate	19
10.2.5 Protection against gas backflow	19
10.2.6 Extinguishing behaviour and protection against flashback	19
10.2.7 Stability in wind.....	19
10.2.8 Thermal stability	19
11 Tests.....	20
11.1 General.....	20
11.2 Leak test	20
11.3 Test for stability in wind for fuel gas/compressed air and air-aspirated flames.....	20
11.4 Valve test	20
11.5 Gas backflow test	20
11.5.1 General.....	20

11.5.2 Testing the gas backflow of oxygen/compressed air into the fuel gas line21

11.5.3 Testing of flashback.....21

12 Instruction manual22

Annex A (informative) Terminology for heating blowpipes and examples of design23

Annex B (informative) Approximated mixing ratios for process-related flame settings
(adjustments)24

Bibliography.....25

Foreword

This document (CEN/TR 13259:2013) has been prepared by Technical Committee CEN/TC 121 "Welding and allied processes", the secretariat of which is held by DIN.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes CR 13259:1998.

Introduction

Requests for official interpretations of any aspect of this Technical Report should be directed to the Secretariat of CEN/TC 121/SC 7 via the National Standards Body.

This document is a preview generated by EVS

1 Scope

This Technical Report refers to manual blowpipes and stationary machine blowpipes with free burning flames for heat treatment of work pieces. These blowpipes are, due to their type of construction, designed for special applications and do not fall under the scope of EN ISO 5172 and EN ISO 9012.

This Technical Report contains technical regulations, specifications and tests.

Blowpipes are intended for gaseous fuels in connection with oxygen, compressed air or aspirated air.

Flow rates are not expressly limited and depend on the thermal process to be performed.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN ISO 5172:2006, *Gas welding equipment — Blowpipes for gas welding, heating and cutting — Specifications and tests (ISO 5172:2006)*

EN 29090, *Gas tightness of equipment for gas welding and allied processes (ISO 9090)*

EN ISO 9539, *Gas welding equipment — Materials for equipment used in gas welding, cutting and allied processes (ISO 9539)*

ISO 15296, *Gas welding equipment — Vocabulary — Terms used for gas welding equipment*