

ICS 93.030

English version

Jetting resistance of drain and sewer pipes - Moving jet test method

Résistance des tubes pour les branchements et les collecteurs d'assainissement durant le procédé de débouage sous haute pression - Méthode d'essai

Widerstandsfähigkeit von Rohrleitungsteilen für Abwasserkanäle und -leitungen beim Hochdruckspülen - Prüfung mit beweglicher Düse

This Technical Report was approved by CEN on 23 August 2004. It has been drawn up by the Technical Committee CEN/TC 165.

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Foreword

This document (CEN/TR 14920:2005) has been prepared by Technical Committee CEN/TC 165 "Waste water engineering", the secretariat of which is held by DIN.

High pressure water jetting has become more used in cleaning practice of drains and sewers. Considering that, CEN/TC 165 decided to develop a test method for the resistance of pipe materials against high pressure water jetting.

Due to a low level of experience with the newly developed test method applied to different materials and considering some aspects of reproducibility have not been proved, a European Standard is not feasible for the time being. Therefore CEN/TC 165 decided to give initial guidance to the market by publishing a test method as a Technical Report (CEN/TR).

The test method specified in this document is intended to simulate the effect of high pressure cleaning on drains and sewers.

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1 Scope

This document specifies a test method for the resistance to high pressure clean water jetting of pipes, fittings and joints used for drains and sewers.

This test method is also applicable to components for renovation and replacement of drains and sewers.

2 Definitions and Symbols

For the purposes of this Technical Report, the following definitions and symbols apply.

2.1 Definitions

2.1.1

jet power

 P_j

energy per time unit of the jet leaving a nozzle

NOTE Jet Power is expressed in Watts.

2.1.2

jet power density

 D_j

jet power per unit of the impinged area

NOTE Jet power density is expressed in Watts per square millimetres.

2.1.3

jet spread angle

 ω

spread of the jet related to its axis

NOTE Jet spread angle is expressed in degrees.

2.1.4

Nozzle

assembly of components which convert high pressure water flow into a jet (see Figure 1a)

2.1.5

Nozzle insert

special ceramic component to form a specified jet (see Figure 1c)

2.2 Further symbols

Table 1 — Symbol

Symbol	Term	Unit
α	angle of the jet axis to the test surface (see Figure B.1)	°
C_d	coefficient of discharge of a nozzle	—
d	orifice diameter of the nozzle insert	mm
h	vertical distance between the test surface and the centre of the nozzle orifice	mm
p	pressure measured not more than one metre upstream of the nozzle	MPa
Q	flow rate	l/min