



# Petroleum products — Transparent and opaque liquids — Determination of kinematic viscosity and calculation of dynamic viscosity

## TECHNICAL CORRIGENDUM 1

*Produits pétroliers — Liquides opaques et transparents — Détermination de la viscosité cinématique et calcul de la viscosité dynamique*

*RECTIFICATIF TECHNIQUE 1*

Technical Corrigendum 1 to International Standard ISO 3104:1994 was prepared by Technical Committee ISO/TC 28, *Petroleum products and lubricants*.

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*Pages 6 and 7*

### 14.1 Determinability

Add the following after: Residual fuel oils at 50 °C<sup>6</sup>): 0,017 y (1,7 %)

Lubricant additives at 100 °C<sup>7</sup>):  
0,00106 y<sup>1,1</sup>

Gas oils at 40 °C<sup>8</sup>):  
0,0013 (y + 1)

Kerosines at – 20 °C<sup>9</sup>):  
0,0018 y

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ICS 75.080

Ref. No. ISO 3104:1994/Cor.1:1997(E)

**Descriptors:** petroleum products, liquids, tests, determination, viscosity, kinematic viscosity, dynamic viscosity, rules of calculation, test equipment.

## 14.2 Repeatability

Add the following after: Residual fuel oils at 50 °C<sup>6</sup>):  $0,015 x$  (1,5 %)

Lubricant additives at 100 °C<sup>7</sup>):

$0,00192 x^{1,1}$

Gas oils at 40 °C<sup>8</sup>):

$0,0043 (x + 1)$

Kerosines at – 20 °C<sup>9</sup>):

$0,007 x$

## 14.3 Reproducibility

Add the following after: Residual fuel oils at 50 °C<sup>6</sup>):  $0,074 x$  (7,4 %)

Lubricant additives at 100 °C<sup>7</sup>):

$0,00862 x^{1,1}$

Gas oils at 40 °C<sup>8</sup>):

$0,0082 (x + 1)$

Kerosines at – 20 °C<sup>9</sup>):

$0,019 x$

Add to footnotes:

7) These precision values were obtained by statistical examination of interlaboratory results from eight additives in the range 145 mm<sup>2</sup>/s to 500 mm<sup>2</sup>/s at 100 °C, and were first published in 1997.

8) These precision values were obtained by statistical examination of interlaboratory results from eight gas oils in the range 1 mm<sup>2</sup>/s to 13 mm<sup>2</sup>/s at 40 °C, and were first published in 1997.

9) These precision values were obtained by statistical examination of interlaboratory results from nine kerosines (jet fuels) in the range 4,3 mm<sup>2</sup>/s to 5,6 mm<sup>2</sup>/s at – 20 °C, and were first published in 1997.