

CEN REPORT

CR 262

Volatility of petrol

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"Test methods and specification
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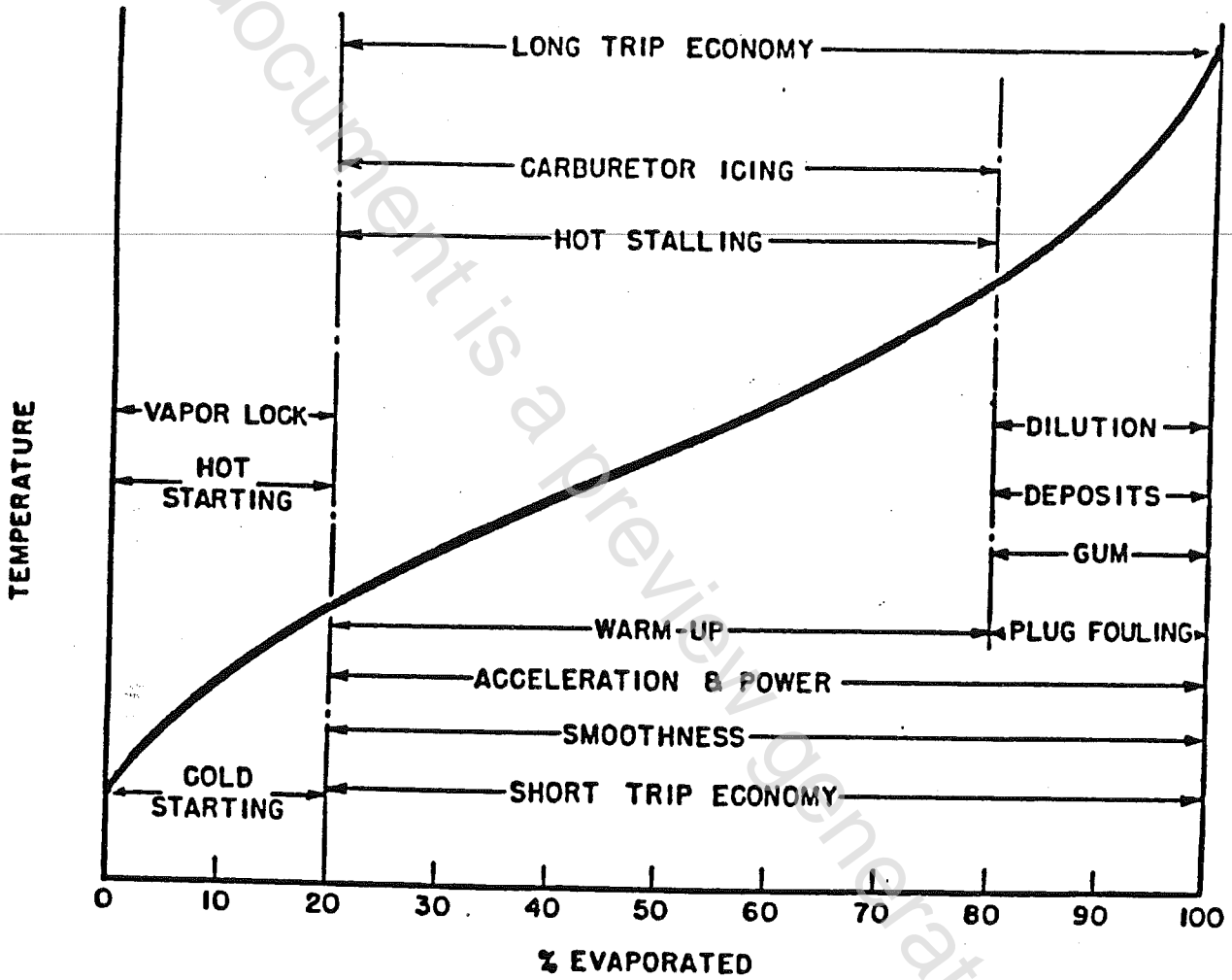
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Fig. 1 Relationship between distillation characteristics and vehicle performance.



1 INTRODUCTION

Volatility, defined as the totality of distillation characteristics and the (Reid) Vapour Pressure, is a very important part of petrol specifications. Its importance relates to product availability, manufacturing economics, product handling and safety, evaporation losses and especially vehicle performance. Incorrect fuel volatility may result in vehicles suffering malfunctions such as difficult cold start, stalling due to iceformation in the carburettor, hesitation during warm-up, difficulty in restarting after hot-soak and loss of power after hot restart. Also fuel economy and engine durability may be affected. An illustration of the relationship between distillation characteristics and vehicle performance is given in figure 1, extracted from SAE paper 650427.

Volatility requirements in different parts of Europe vary considerably, due to differences in climate, car populations, driving conditions, consumer expectations, manufacturing and transport facilities and raw materials availability.

These differences have proven to be strong enough to prevent the development of uniform petrol volatility specifications acceptable to a majority of CEN members. During the 13th meeting of CEN TC 19, July 1985 in Athens, no agreement could be reached on European wide volatility specification limits, in spite of requests put forward by the Commission of the European Communities and by the CEN Central Secretariat. The importance of volatility specifications, however, was underlined during the same meeting by acceptance of resolution 8, calling for the establishment of a guide to enable European harmonisation of unleaded petrol volatility. Working group 19 was created with the specific task to prepare a CEN report on volatility, providing an objective basis for national bodies to set volatility specification limits on a commonly recognized basis, adaptable to national conditions. WG 19 membership showed a broad representation of the European car and oil industry (see the Annex) and arrived at the underlying CEN-report on volatility which was unanimously accepted by CEN/TC 19.