Asphalt content	5.5 - 6.0%
Filler/Asphalt Ratio	Approximately 1.7
Crushed Stone	55 - 60%
Abrasion loss measured in laboratory test for asphalt mortar	less than 1.3 cm

As mentioned earlier, it is important to reduce the permeability coefficient of the mixture in view of preventing frost damages. Thus, as shown in Table 5, it is not desirable to have a crushed stone content of more than 65%, and the air void in total mixture should be less than 5.5%.

It should also be noted that in connection with the application of gap-graded dense asphaltic concrete in general areas, its superior resistance to plastic flow has been pointed out when compared to the continuous graded type. This aspect as a countermeasure to rutting on heavy traffic routes is under investigation using experimentally paved surfaces on a national basis.

CONCLUSIONS

The standard asphalt mixture for non-skid pavement in Japan is introduced in this paper. Open-graded asphaltic concrete and gap-graded dense asphaltic concrete are used in general areas, while gap-graded dense asphaltic concrete which has high filler to asphalt ratio is used in snowy areas. Gap-grading can be recommended for mixtures satisfying durability such as abrasion resistance and, at the same time, requiring comparatively high skid resistance.

APPLICATION OF KNOWLEDGE OF PAVEMENT SURFACE PROPERTIES IN THE NETHERLANDS

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In the Netherlands routine investigations of the state road network have taken place since 1954. Criteria for skid resistance values in use for maintenance of roads are based on accident analyses. Such criteria also exist for rut depths. Routine investigations of rut depths by means of continuous measurement at traveling speed (50 km/h) are made possible by means of the Dutch rut meter.

For contract work a minimum value of the skid resistance of new roads has to be met by the contractor. If these requirements are not met, a penalty or, if skid values are very low, restoration of the road surface at the cost of the contractor will be demanded.

Details and figures on the use of routine investigations of surface characteristics can be found in the paper presented by Mr. C. van de Fliert at the 1977 Transportation Research Board Annual Meeting (1).

REFERENCES

1. C. van de Fliert and H. Schram. Quality Control of Pavements in the Netherlands, Transportation Research Board, Transportation Research Record 652, 1977.

APPLICATION OF KNOWLEDGE OF PAVEMENT SURFACE PROPERTIES IN OTHER COUNTRIES

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By means of a questionnaire (1) on this subject sent at random to a number of PIARC member countries all over the world more understanding about the problem and the status of implementation of skidding knowledge has been achieved.

Skidding is more of a problem to a state if its climatic conditions cause long periods of wet roads. On wetroads the accident rate will be two or three times higher than on dry roads.

In most of the countries where skidding is a major problem attention is given to the initial skid resistance of new roads. Most states have specifications for the Polished Stone Value (PSV) of aggregates, sometimes in combination with regulations concerning the geometry of stones.

Guidelines for levels of desired skid resistane are in use, and a majority of states reported routine investigations of skid resistance of the road network.

REFERENCES

1. J. P. Leyder and G. Van Heystraeten. Conference-Debate on Restoration of Skid-Resistance Properties of Pavements, Permanent International Association of Road COngresses, IV Congress, Mexico City, 1975.