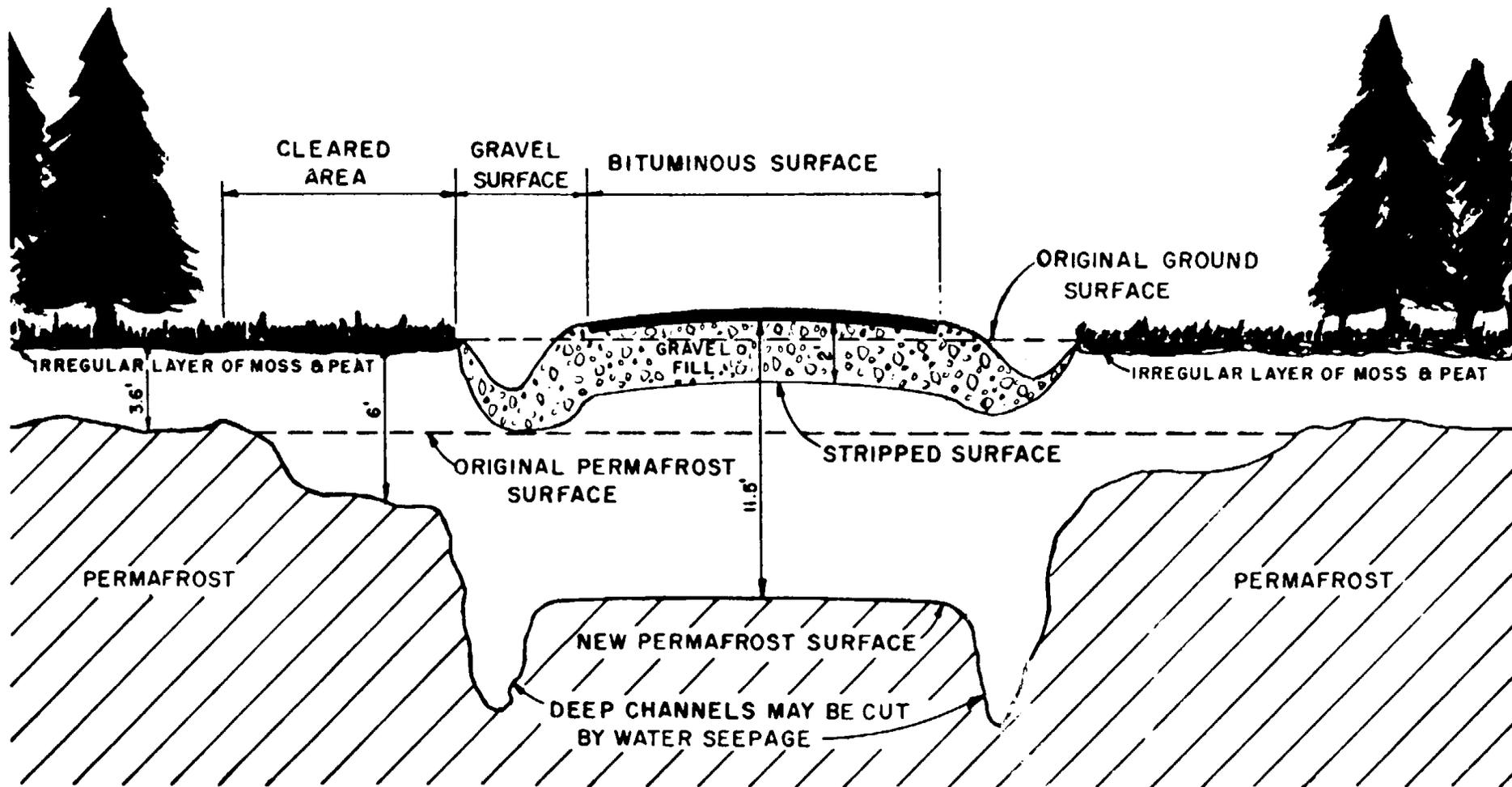


MEASURED DEGRADATION OF PERMAFROST IN FROST-SUSCEPTIBLE SOILS
BELOW DIFFERENT SURFACES IN A SUBARCTIC REGION
AFTER A FIVE YEAR PERIOD



**MAXIMUM DEPTH TO PERMAFROST BELOW A ROAD AFTER FIVE YEARS
IN A SUBARCTIC REGION**

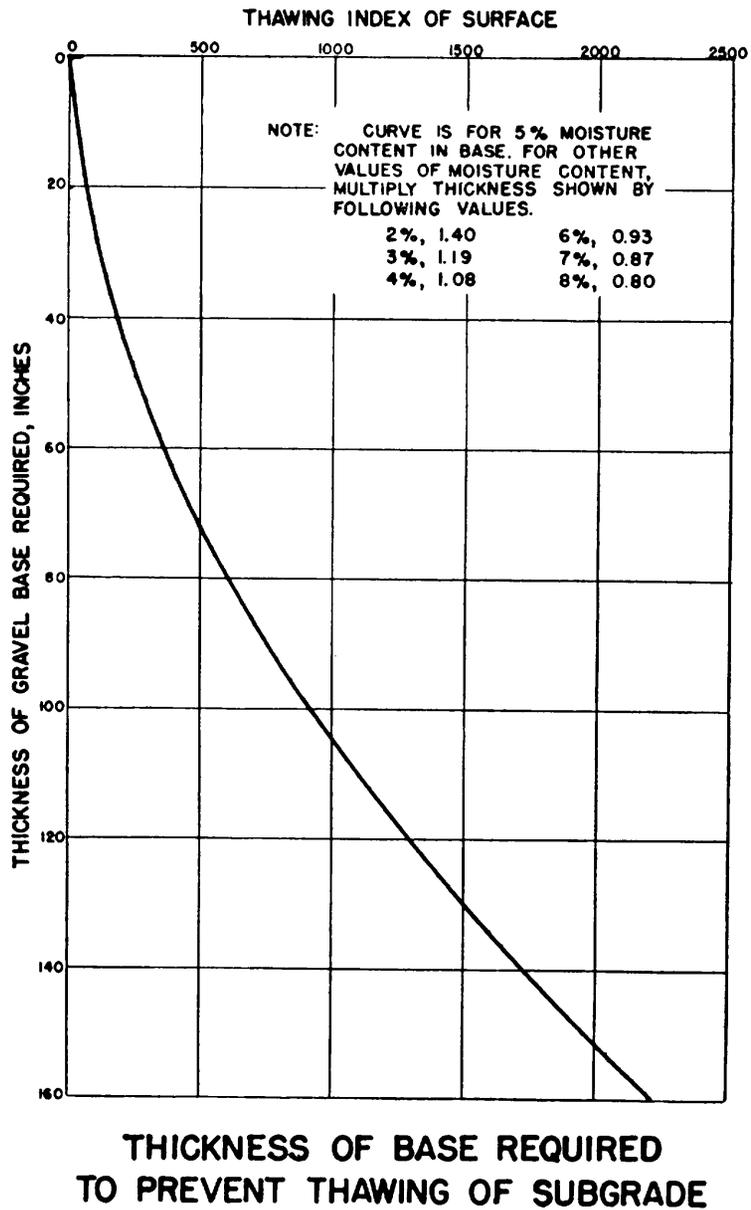
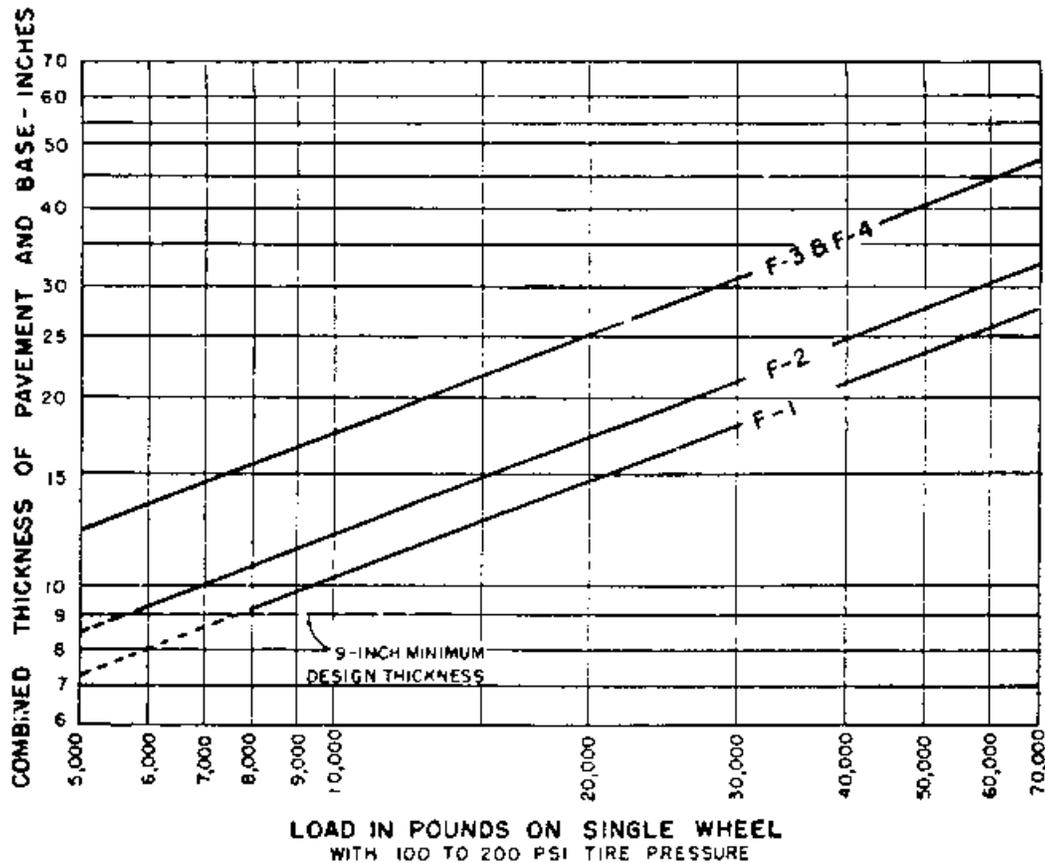


Figure 3.

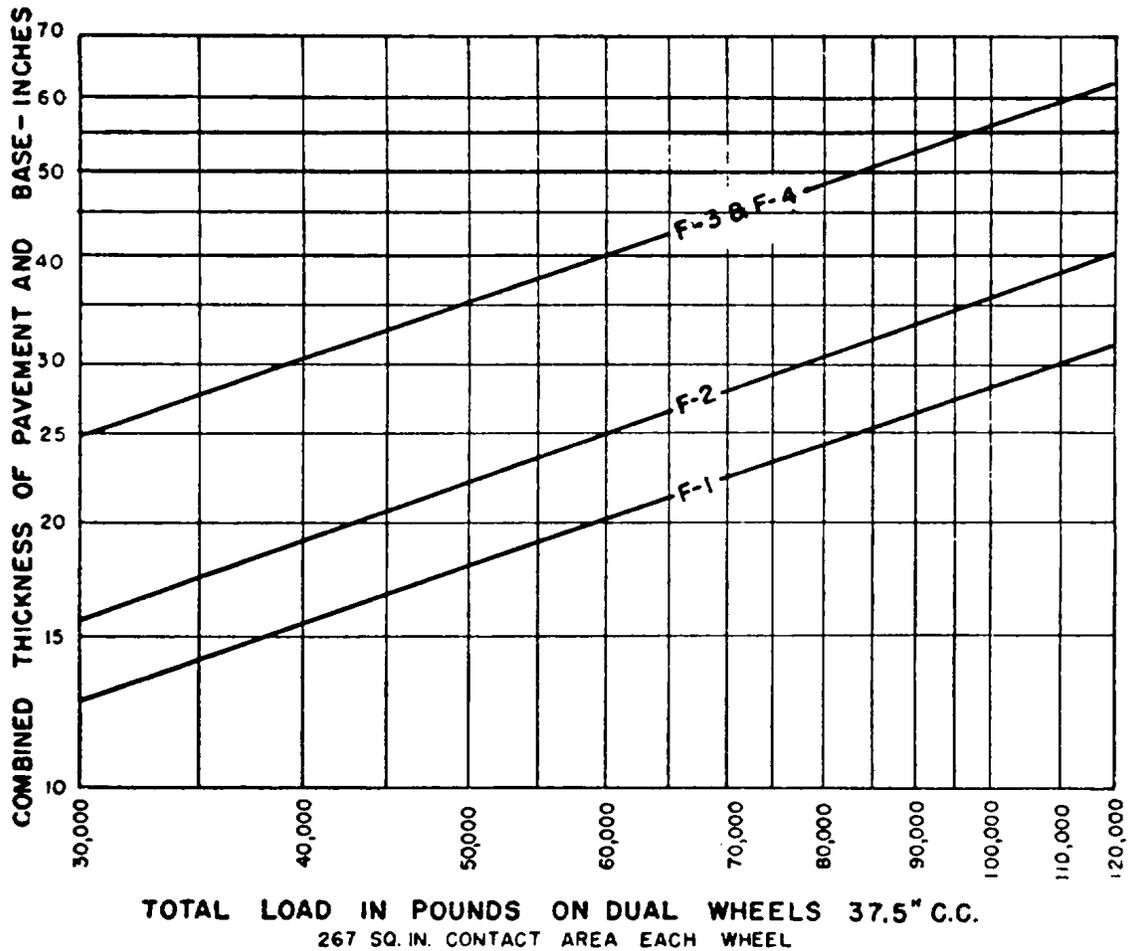
GROUP	DESCRIPTION
F 1	GRAVELLY SOILS CONTAINING BETWEEN 3 AND 20 PER CENT FINER THAN 0.02 MM. BY WEIGHT.
F 2	SANDS CONTAINING BETWEEN 3 AND 15 PER CENT FINER THAN 0.02 MM. BY WEIGHT.
F 3	(a) GRAVELLY SOILS CONTAINING MORE THAN 20 PER CENT FINER THAN 0.02 MM. BY WEIGHT. (b) SANDS, EXCEPT VERY FINE SILTY SANDS, CONTAINING MORE THAN 15 PER CENT FINER THAN 0.02 MM. BY WEIGHT. (c) CLAYS WITH PLASTICITY INDEXES OF MORE THAN 12. (d) VARVED CLAYS EXISTING WITH UNIFORM SUBGRADE CONDITIONS.
F 4	(a) ALL SILTS INCLUDING SANDY SILTS. (b) VERY FINE SILTY SANDS CONTAINING MORE THAN 15 PER CENT FINER THAN 0.02 MM. BY WEIGHT. (c) CLAYS WITH PLASTICITY INDEXES OF LESS THAN 12. (d) VARVED CLAYS EXISTING WITH NON-UNIFORM SUBGRADE CONDITIONS.



THE THICKNESS WILL BE REDUCED 10 PER CENT
 FOR CENTRAL PORTION OF RUNWAYS (AREA BETWEEN 1000 FT. SECTION AT EACH END)
**FLEXIBLE PAVEMENT DESIGN CURVES FOR TAXIWAYS, ETC.
 FOR
 REDUCED STRENGTH OF SUBGRADE
 ARCTIC AND SUBARCTIC REGIONS**

Figure 4.

GROUP	DESCRIPTION
F 1	GRAVELLY SOILS CONTAINING BETWEEN 3 AND 20 PER CENT FINER THAN 0.02 mm. BY WEIGHT.
F 2	SANDS CONTAINING BETWEEN 3 AND 15 PER CENT FINER THAN 0.02 mm. BY WEIGHT.
F 3	(a) GRAVELLY SOILS CONTAINING MORE THAN 20 PER CENT FINER THAN 0.02mm. BY WEIGHT. (b) SANDS, EXCEPT VERY FINE SILTY SANDS, CONTAINING MORE THAN 15 PER CENT FINER THAN 0.02mm. BY WEIGHT. (c) CLAYS WITH PLASTICITY INDEXES OF MORE THAN 12. (d) VARVED CLAYS EXISTING WITH UNIFORM SUBGRADE CONDITIONS.
F 4	(a) ALL SILTS INCLUDING SANDY SILTS. (b) VERY FINE SILTY SANDS CONTAINING MORE THAN 15 PER CENT FINER THAN 0.02mm. BY WEIGHT. (c) CLAYS WITH PLASTICITY INDEXES OF LESS THAN 12. (d) VARVED CLAYS EXISTING WITH NON-UNIFORM SUBGRADE CONDITIONS.

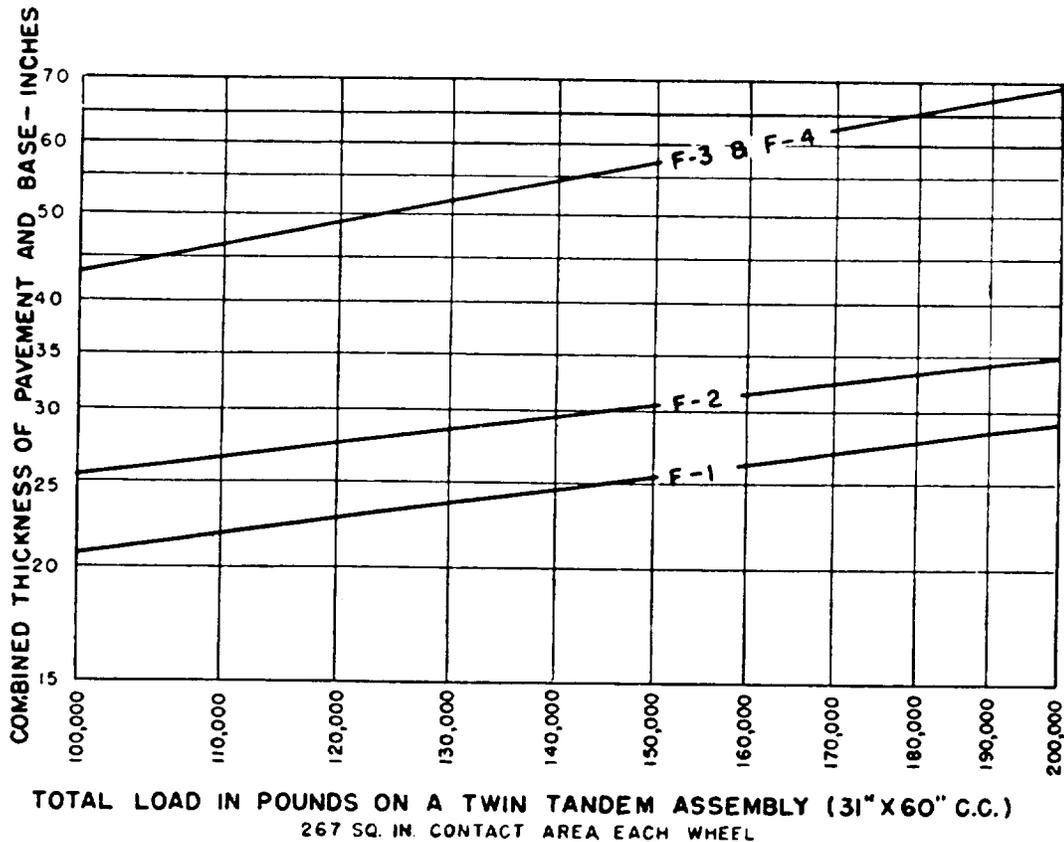


THE THICKNESS WILL BE REDUCED 10 PER CENT
FOR CENTRAL PORTION OF RUNWAYS (AREA BETWEEN 1000 FT. SECTION AT EACH END)

**FLEXIBLE PAVEMENT DESIGN CURVES FOR TAXIWAYS, ETC.
FOR
REDUCED STRENGTH OF SUBGRADE
ARCTIC AND SUBARCTIC REGIONS**

Figure 5.

GROUP	DESCRIPTION
F 1	GRAVELLY SOILS CONTAINING BETWEEN 3 AND 20 PER CENT FINER THAN 0.02 mm. BY WEIGHT.
F 2	SANDS CONTAINING BETWEEN 3 AND 15 PER CENT FINER THAN 0.02 mm. BY WEIGHT.
F 3	(a) GRAVELLY SOILS CONTAINING MORE THAN 20 PER CENT FINER THAN 0.02 mm. BY WEIGHT. (b) SANDS, EXCEPT VERY FINE SILTY SANDS, CONTAINING MORE THAN 15 PER CENT FINER THAN 0.02 mm. BY WEIGHT. (c) CLAYS WITH PLASTICITY INDEXES OF MORE THAN 12. (d) VARVED CLAYS EXISTING WITH UNIFORM SUBGRADE CONDITIONS.
F 4	(a) ALL SILTS INCLUDING SANDY SILTS. (b) VERY FINE SILTY SANDS CONTAINING MORE THAN 15 PER CENT FINER THAN 0.02 mm. BY WEIGHT. (c) CLAYS WITH PLASTICITY INDEXES OF LESS THAN 12. (d) VARVED CLAYS EXISTING WITH NON-UNIFORM SUBGRADE CONDITIONS.

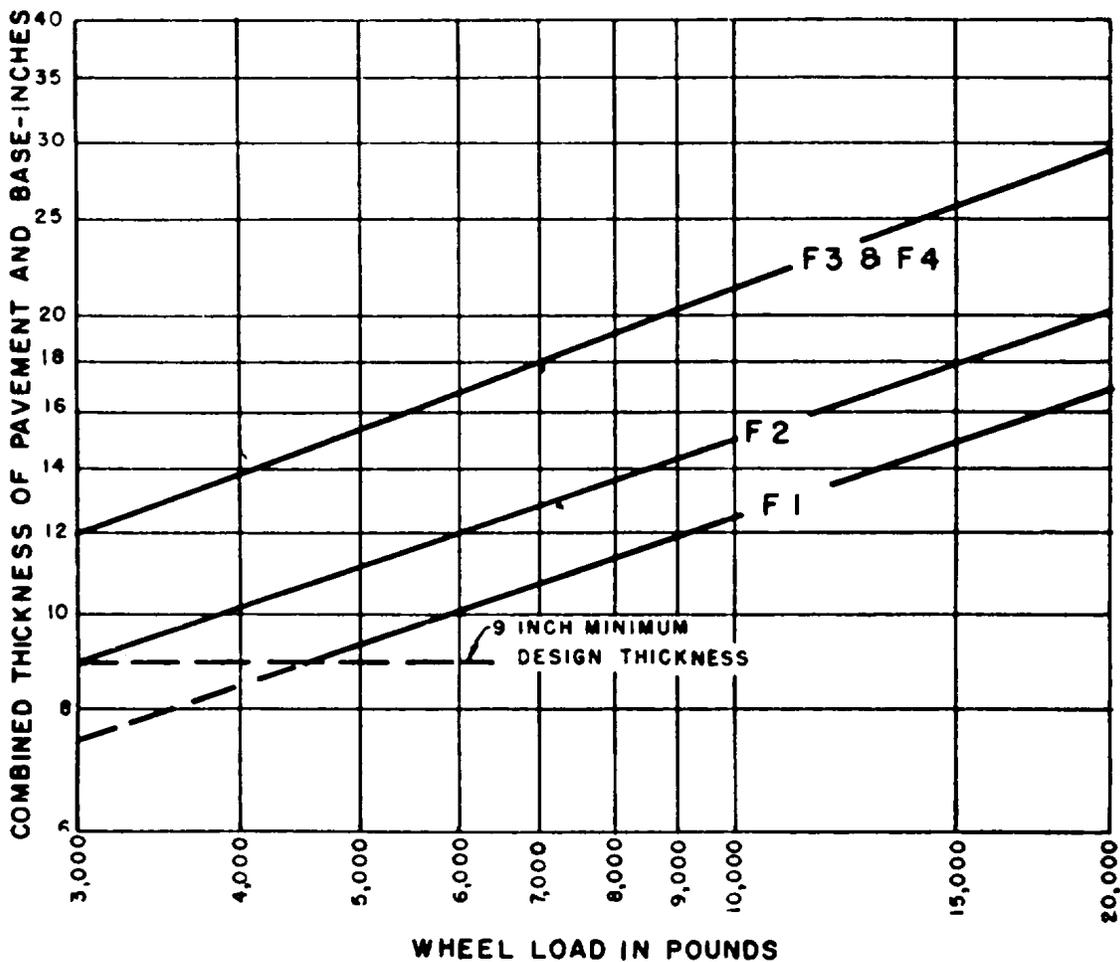


THE THICKNESS WILL BE REDUCED 10 PER CENT
FOR CENTRAL PORTION OF RUNWAYS (AREA BETWEEN 1000 FT. SECTION AT EACH END)

**FLEXIBLE PAVEMENT DESIGN CURVES FOR TAXIWAYS, ETC. -
FOR
REDUCED STRENGTH OF SUBGRADE
ARCTIC AND SUBARCTIC REGIONS**

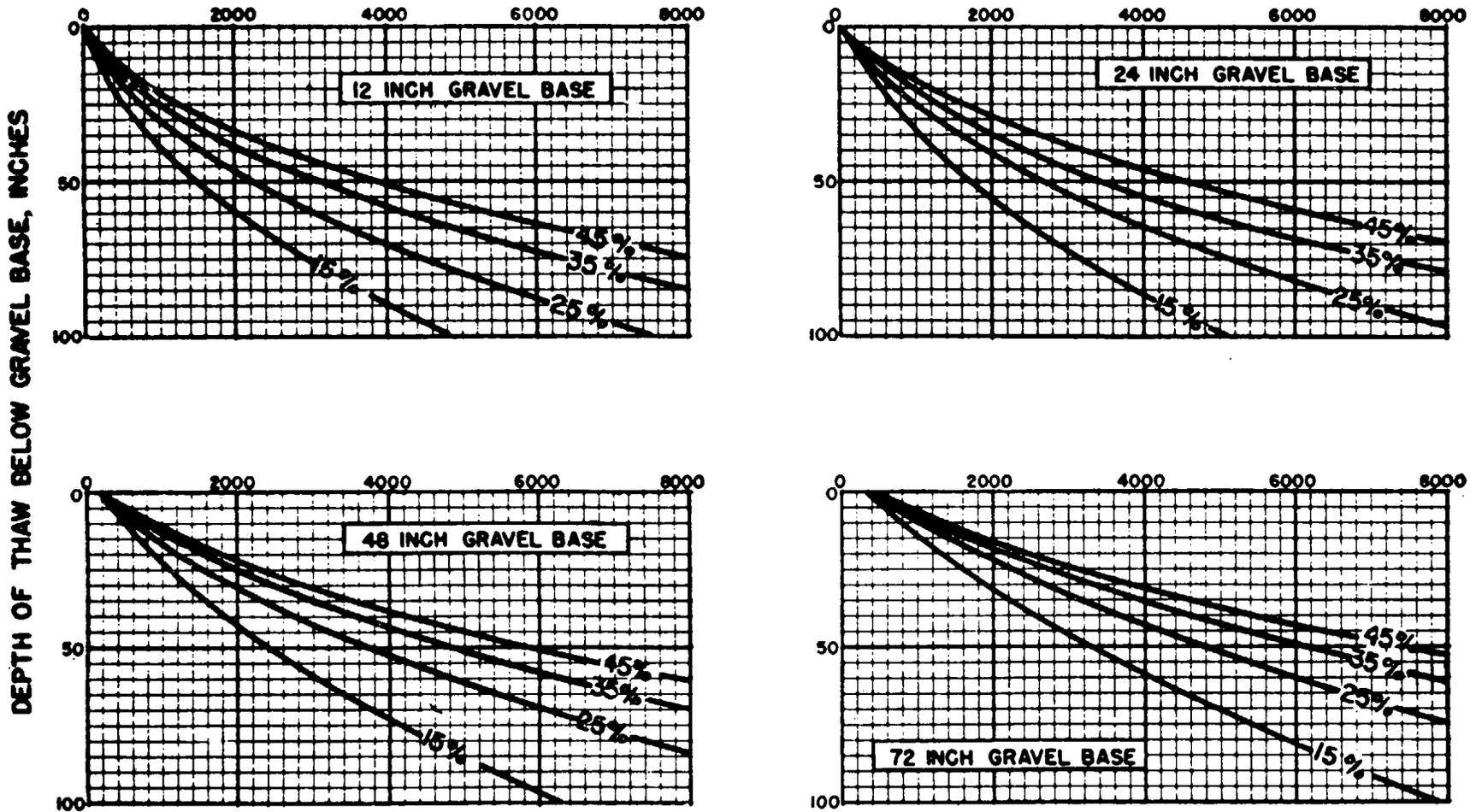
Figure 6.
17

GROUP	DESCRIPTION
F 1	GRAVELLY SOILS CONTAINING BETWEEN 3 AND 20 PER CENT FINER THAN 0.02 mm. BY WEIGHT.
F 2	SANDS CONTAINING BETWEEN 3 AND 15 PER CENT FINER THAN 0.02 mm. BY WEIGHT.
F 3	(a) GRAVELLY SOILS CONTAINING MORE THAN 20 PER CENT FINER THAN 0.02 mm. BY WEIGHT. (b) SANDS, EXCEPT VERY FINE SILTY SANDS, CONTAINING MORE THAN 15 PER CENT FINER THAN 0.02 mm. BY WEIGHT. (c) CLAYS WITH PLASTICITY INDEXES OF MORE THAN 12. (d) VARVED CLAYS EXISTING WITH UNIFORM SUBGRADE CONDITIONS.
F 4	(a) ALL SILTS INCLUDING SANDY SILTS. (b) VERY FINE SILTY SANDS CONTAINING MORE THAN 15 PER CENT FINER THAN 0.02 mm. BY WEIGHT. (c) CLAYS WITH PLASTICITY INDEXES OF LESS THAN 12. (d) VARVED CLAYS EXISTING WITH NON-UNIFORM SUBGRADE CONDITIONS.



FLEXIBLE PAVEMENT DESIGN CURVES FOR HIGHWAYS, ETC.
FOR
REDUCED STRENGTH OF SUBGRADE
ARCTIC AND SUBARCTIC REGIONS

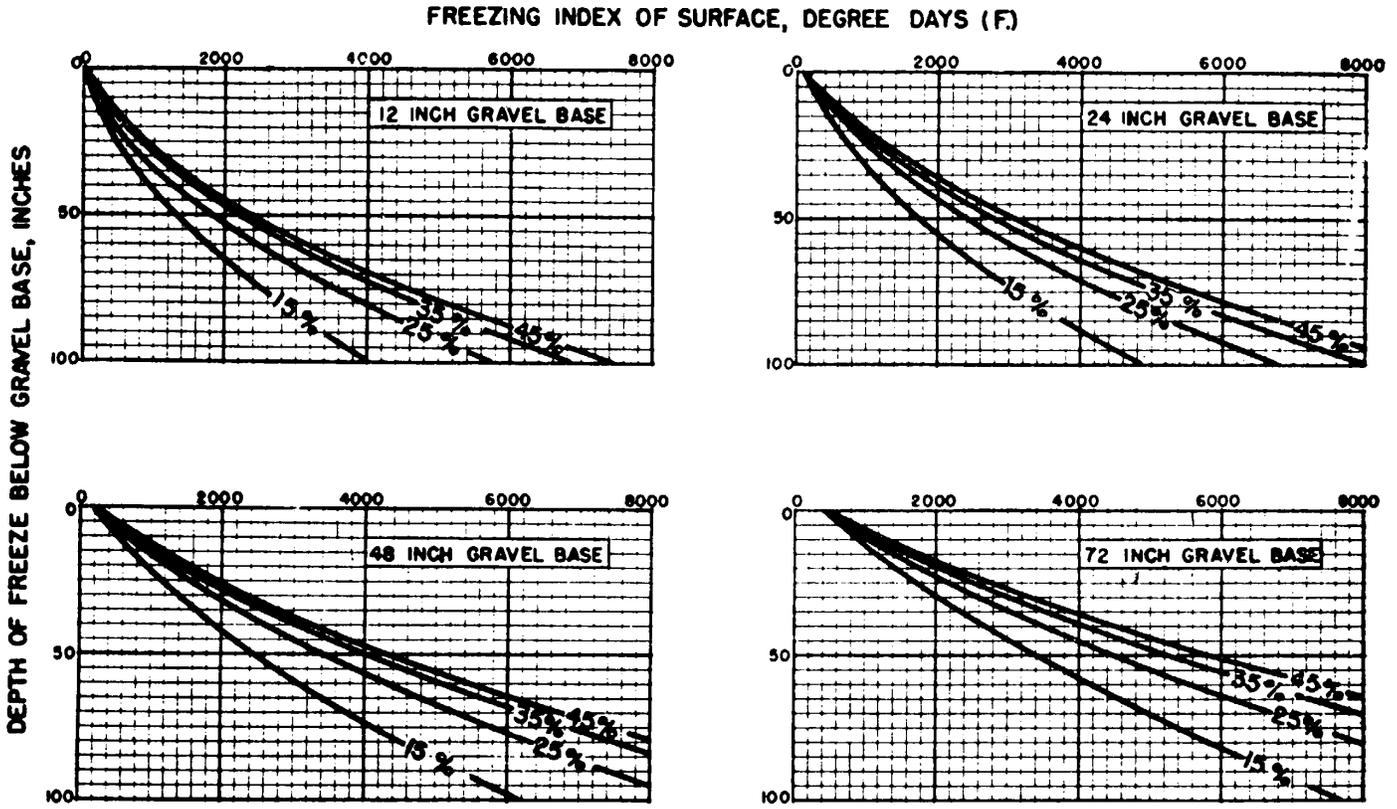
THAWING INDEX OF SURFACE, DEGREE-DAYS (F)



**CURVES FOR DETERMINATION OF DEPTH OF THAW
BENEATH PAVEMENTS WITH GRAVEL BASES**

NOTE: VALUES ON CURVES ARE MOISTURE CONTENT OF FROST-SUSCEPTIBLE SUBGRADE
PAVEMENT SURFACE EITHER BITUMINOUS OR CONCRETE.
DEPTHS ARE FROM TOP OF SUBGRADE.

Figure 8.

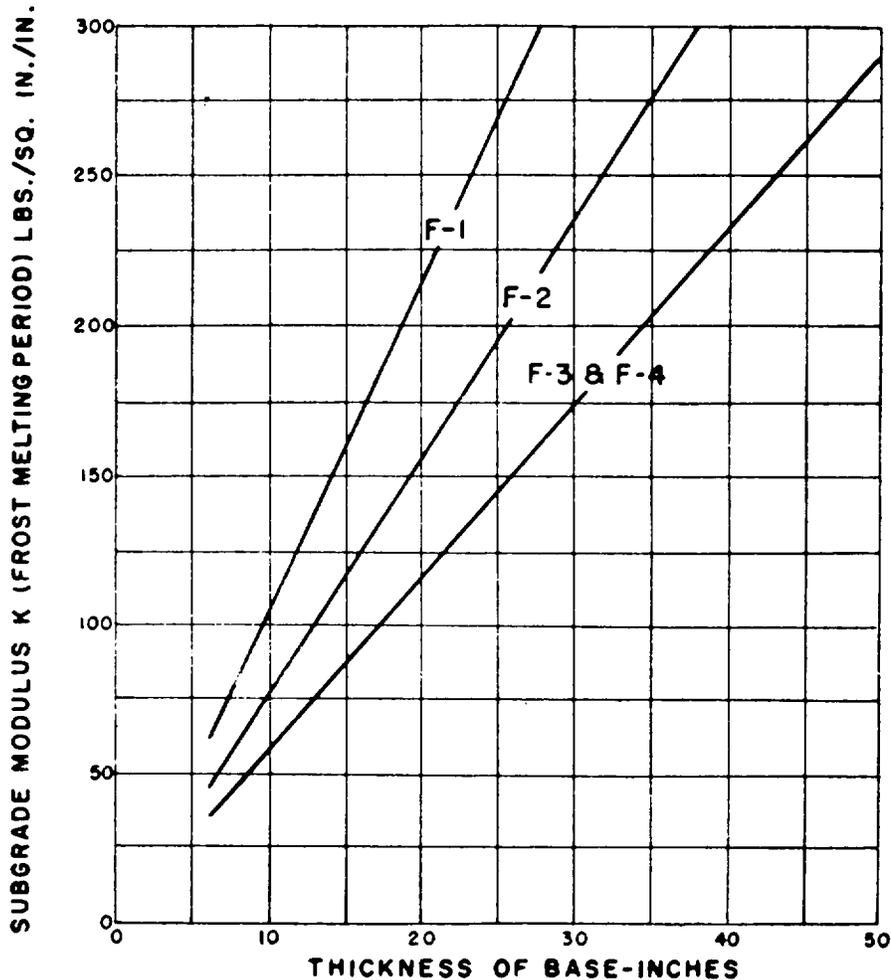


**CURVES FOR DETERMINATION OF DEPTH OF FREEZE
BENEATH PAVEMENTS WITH GRAVEL BASES**

NOTE: VALUES ON CURVES ARE MOISTURE CONTENT OF FROST-SUSCEPTABLE SUBGRADE
PAVEMENT SURFACE EITHER BITUMINOUS OR CONCRETE.
DEPTHS ARE FROM TOP OF SUBGRADE.

Figure 9.
20

GROUP	DESCRIPTION
F 1	GRAVELLY SOILS CONTAINING BETWEEN 3 AND 20 PER CENT FINER THAN 0.02 mm. BY WEIGHT.
F 2	SANDS CONTAINING BETWEEN 3 AND 15 PER CENT FINER THAN 0.02 mm. BY WEIGHT.
F 3	(a) GRAVELLY SOILS CONTAINING MORE THAN 20 PER CENT FINER THAN 0.02 mm. BY WEIGHT. (b) SANDS, EXCEPT VERY FINE SILTY SANDS, CONTAINING MORE THAN 15 PER CENT FINER THAN 0.02 mm. BY WEIGHT. (c) CLAYS WITH PLASTICITY INDEXES OF MORE THAN 12. (d) VARVED CLAYS EXISTING WITH UNIFORM SUBGRADE CONDITIONS.
F 4	(a) ALL SILTS INCLUDING SANDY SILTS. (b) VERY FINE SILTY SANDS CONTAINING MORE THAN 15 PERCENT FINER THAN 0.02 mm BY WEIGHT (c) CLAYS WITH PLASTICITY INDEXES OF LESS THAN 12 (d) VARVED CLAYS EXISTING WITH NON-UNIFORM SUBGRADE CONDITIONS.



**RIGID PAVEMENT SUBGRADE MODULUS CURVES
FOR
REDUCED STRENGTH OF SUBGRADE
ARCTIC AND SUBARCTIC REGIONS**

Figure 10.

