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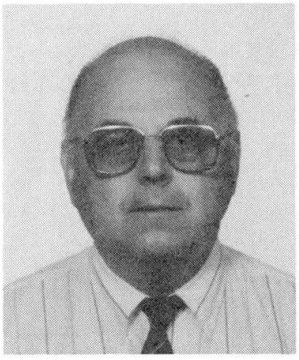

Summary

In Hungary the number of residential buildings is sufficient, however, a significant number of them are in a deteriorated state and their heat insulation is not satisfactory. Quality requirements justify the building of 25-30 thousand residences every year. The Government has initiated financial support for on the one part renovation, modernisation of residences, and on the second part for the energy saving, value increasing renovation of residences built with prefabricated materials technology. The Building Maintenance R+D Foundation can provide significant help to the owners and entrepreneurs with, on the one hand, the prefabricated building computer plan store, and on the other hand with the determination of the planned heat insulation of the buildings and building diagnostics.

1. Introduction

The Building Maintenance R+D Foundation was founded by the Home Ministry, the Ministry of Industry Trade and Tourism, the Environmental Protection and Area Development Ministry, the Budapest Local Authority, the National Technical Development Committee and the National Association of Building Maintainers. The objective of the Foundation: protection and economic operation of the country's building property, the preservation of our building environment within the framework of Hungarian and international co-operation. The Foundation Innovation Bureau has prepared the Government program entitled "The energy saving, value increasing renovation of residential buildings built with industrialised, primarily prefabricated technology".

2. General Data of Residences in Hungary

In Hungary with a population of 10 million there are nearly 4 million residences. This number consists mainly of family houses, furthermore multi-storey, traditional buildings, town terraced houses and multi-storey buildings built with industrialised technology. Of this 508 thousand were built with large panel, building factory technology, and 286 thousand with other industrialised technology (precast concrete wall units, tunnel shuttering, and other cast wall building methods).

The characteristic heat insulation values, heating systems, ventilation, warm water supply, expected life and ownership right breakdown is contained in detail in table No. 1.

Distribution of the housing stock according to thermal insulation, installations and ownership form						
1992		Type of building				Total
		family house	multi-storey traditional	row of houses	multi-storey ind.	
Number of dwellings		2,365,000	577,700	201,600	794,300	3,938,600
Abandoned dwellings		109,400	40,000	9,900	6,000	165,300
amount of heat insulation	U>1.3 W/m^{2}K	1,865,000	57,800	157,300	-	2,080,100
	0.7<U <1.3 W/m^{2}K	350,000	433,300	40,300	635,400	1,459,000
	U<0.7 W/m^{2}K	150,000	86,600	4,000	158,900	399,500
heating method	per room ind.	1,681,400	374,900	66,200	166,900	2,289,400
	per residence central	682,600	173,000	44,400	-	900,000
	per building central	-	28,800	61,200	17,200	107,200
	district	1,000	1,000	29,800	610,200	642,000
ventillation	natural	2,635,000	577,700	151,200	166,900	3,087,500
	gravitat.	-	173,300	50,400	389,100	612,800
	mech. exhaust	-	-	-	238,300	238,300
domestic hot water	no supply	765,000	20,000	15,000	-	800,000
	individual	1,600,000	545,200	155,600	220,300	2,521,100
	central	-	11,500	20,000	-	31,500
	district		1,000	11,000	574,000	586,000
expected lifetime	less than 10 years	373,000	-	-	-	373,000
	10 to 30 years	275,000	-	25,000	-	300,000
	more than 30 years	1,717,000	577,700	176,600	794,300	3,265,600
ownership	priv. (priv., condo.)	2,365,000	577,700	122,800	558,000	3,623,500
	state, local authority	-	-	78,800	236,300	315,100

Table 1.

About 10% of the residences are in very bad technical condition and their expected life is 10 years. The energy saving renovation of these residences is not justified, as the cost of this is higher than that of the construction of new residences. 91% of the residences in Hungary are in private ownership and 9% in mainly local authority and some in state ownership.

In Hungary 1,350,000 people live in prefabricated residences, and 750,000 live in residences constructed with other industrialised procedures. The condition of these residences directly affects more than 1/5 of the population of the country, nearly 2,100,000 people. The condition of the residences constructed with industrialised, primarily prefabricated technology is at the moment mostly satisfactory, but their mass renovation and modernisation will become due in the near future.