

**Model Code  
for  
Concrete Chimneys  
with  
Commentaries  
Part C:  
Steel Liners**

**CICIND**

COMITÉ INTERNATIONAL DES CHEMINÉES INDUSTRIELLES  
INTERNATIONAL COMMITTEE FOR INDUSTRIAL CHIMNEYS  
INTERNATIONALER AUSSCHUSS FÜR INDUSTRIESCHORNSTEINE

**CICIND**

Model Code for Concrete Chimneys

# Model Code for Concrete Chimneys

## PART C: STEEL LINERS (INCLUDING COMMENTARIES)

### TABLE OF CONTENTS

#### MODEL CODE:-

Foreword .....	2	8. Design .....	9
0. Introduction .....	2	8.1 Design of liner shell .....	9
1. Scope .....	2	8.2 Liner supports .....	14
2. Field of application .....	2	9. Design details .....	15
3. References .....	3	9.1 Connections .....	15
4. Notations and definitions .....	3	9.2 Flanges .....	16
5. Basis of design .....	3	9.3 Openings .....	17
5.1 General .....	3	9.4 Thermal insulation .....	17
5.2 Loads .....	3	9.5 Rainshields .....	17
5.3 Load combination factors .....	4	10. Insulation .....	17
5.4 Ultimate resistance .....	4	11. Refractory linings (insulating and acid resistant) .....	17
5.5 Effective area and stiffness of liner sections .....	4	12. Protective coatings .....	17
6. Materials .....	4	13. Construction .....	17
6.1 General .....	4	13.1 General .....	17
6.2 Structural steels .....	4	13.2 Structural shell .....	17
6.3 Stainless and alloy steels .....	5	13.3 Flanges, stiffening rings and openings reinforcement .....	17
7. Actions .....	5	13.4 Baseplate .....	17
7.1 Dead and dust loads .....	5	13.5 Straightness .....	17
7.2 wind loads .....	5	13.6 Erection tolerances .....	17
7.3 Earthquake loads .....	7	14. Lightning protection .....	17
7.4 Transmission of vibrations .....	7		
7.5 Coupling of liner and structural shell under horizontal loads .....	7		
7.6 Effect of differential temperatures in the flue gas stream .....	7		
7.7 Internal pressure changes .....	8		
7.8 Chemical effects .....	9		

#### COMMENTARIES

Commentary No. 1: Thermal Stress .....	18
Commentary No. 2: Liner Types .....	22
Commentary No. 3: Buckling .....	22

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Part C Steel Liners  
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## FOREWORD

The CICIND Model Code for Concrete Chimneys Part A, "THE SHELL" was published in 1984 and the Model Code for Steel Chimneys was published in 1988. Both have had a significant impact on the drafting of new national codes for the design of industrial chimneys, world wide.

During the years following the publication of these Model Codes, the use of steel liners in concrete chimneys has increased. No national codes are yet available for the design of steel liners, the only guidance available to designers being the report by an ASCE Task Committee, published in 1975, entitled "Design and construction of steel chimney liners". The CICIND Board of Governors therefore decided that it would be of help to designers if a Model Code was prepared on the design of steel liners.

In 1992 a committee was formed to draft a proposal for a Model Code for steel liners to chimneys.

This document is the result of the committee's work.

The Committee comprises:

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## 0. INTRODUCTION

### 0.1 GENERAL

Chimneys are required to carry vertically and discharge to the atmosphere, gaseous products of combustion, chemical waste gases, exhaust air or industrial gases for combustion (flaring) for safety purposes.

Chimney liners are required to isolate the structural outer shell from contact with these gases.

This model code contains guidelines which reflect the current state-of-art in the design and construction of steel liners. Nevertheless, the design, fabrication and erection of steel liners require a thorough knowledge of these structures, the properties of the materials used, the actions occurring upon the structure and the recognised rules of the relevant technologies. The design of steel liners should therefore only be entrusted to appropriately qualified and experienced engineers. The construction and erection should be carried out by firms competent in this class of work. At all times the work should be under the direction of appropriately qualified supervisors.

CICIND will continue to try to improve the understanding of the behaviour of steel liners. Revisions of this Model Code will therefore be published from time to time.

### 0.2 PHILOSOPHY

One of the main objectives of any Code governing construction is the creation of a model which resembles as far as possible, the real situation. The model should be sufficiently "safe, simple and true". It is very rarely that simplicity and truth are compatible, so a model must be used which provides an acceptable compromise between truth, simplicity and safety.

CICIND has departed from generally accepted principles of steelwork design and construction only when this was required by the philosophy outlined above or by specific chimney requirements.

### 0.3 LANGUAGE

This document was compiled by a committee only some of whose members have English as their mother tongue. The language of the document therefore may show certain deficiencies. The Committee having only limited resources in time and money decided to concentrate its efforts on the material content and logic of presentation rather than language style.

## 1. SCOPE

This Model Code relates to the design and construction of steel liners supported within a concrete outer shell with or without inner surface coating or lining and with or without external insulation.

The Model Code does not deal with the architectural aspect or with means of establishing the internal diameter or height.

This Model Code does not deal with those aspects of the design and construction of support structure, refractories and insulation which are not peculiar to steel liners. Neither does it deal with the means of combustion or "flaring" of waste industrial gases.

## 2. FIELD OF APPLICATION

This Model Code is used for all steel liners within a structural shell 20m or greater in height, designed using the relevant CICIND Model Code and covers liners of both carbon and stainless steel.

It covers the three basic type of steel liners: (a) top hung; (b) supported by intermediate platforms; (c) supported at base.