国外高等院校土建学科基础教材（中英文对照）

# 建筑招投标
# TENDERING

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[西] 塞巴斯提安·TH·弗兰森 著

马琴 万志斌 译

BASICS

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# 中文部分目录


\\ 前言 7

\\ 绪论 85
\\ 招标要求 86
\\ 成本 87
\\ 期限 88
\\ 功能 90
\\ 服务内容 91
\\ 质量 91
\\ 标书条目 93

\\ 招标组织 94
\\ 列出招标时间表 94
\\ 参与人员的时间投入 94
\\ 招标程序和招标类型 97
\\ 确定报价单位 98
\\ 行业分包 98
\\ 局部分包招标文件 101
\\ 打包发包 101
\\ 标书风格 102
\\ 功能性标书 103
\\ 详细的标书 103
\\ 标书深度 103

\\ 招标文件组织 104
\\ 文本部分 104
\\ 建设项目概况 105
\\ 合同条款 108
\\ 技术要求 110
\\ 与项目相关的合同条款 111
\\ 招标说明书 112
\\ 图纸部分 112

\\ 其他描述部分 114
\\ 编写服务说明书 114
\\ 编写功能性服务说明书的方法 115
\\ 没有设计的功能性招标说明书 116
\\ 有设计的功能性说明书 120
\\ 编写功能性招标说明书 122
\\ 草拟要求概述 125
\\ 详细说明的工作程序 128
\\ 分块 130
\\ 标题和副标题 131
\\ 列项 132

\\ 结语 141

\\ 附录 141
\\ 参考文献 141
\\ 国际合同样本 141
\\ 其他资料来源 142
\\ 图片来源 142

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## TABLE OF CONTENTS


\\Foreword _9

\\Introduction _11
- \\Tendering requirements _12
  - \\Costs _13
  - \\Deadlines _15
  - \\Function _16
  - \\Range of services _18
  - \\Quality _19
- \\Tender items _20

\\Organizing the tender _23
- \\Timetabling the invitation to tender _23
  - \\Time invested by participants _24
- \\Tendering sequence and nature of tender _26
- \\Fixing bid units _28
  - \\Tendering by trade _28
  - \\Invitation to tender by part lot _31
  - \\Package awards _31
- \\Tendering style _33
  - \\Tendering by function _33
  - \\Detailed tendering _34
  - \\Depth of tender _34

\\Structuring an invitation to tender _37
- \\Textual elements _37
  - \\General information about the building project _37
  - \\Contractual conditions _41
  - \\Technical requirements _44
  - \\Project-related contractual conditions _46
  - \\Tender specification _47
- \\Drawing elements _48
- \\Other descriptive elements _49

\\Structuring service specifications _51
- \\Approach to functional service specifications _51
  - \\Functional tender specifications without a design _53
  - \\Functional specification with design _57
  - \\Structuring a functional tender specification _60
  - \\Drawing up a requirement profile _62

\\Procedures for a detailed description of works _66
\\Lot _69
\\Title and subtitle _69
\\Items _71

\\In conclusion _82

\\Appendix _83
\\Literature _83
\\Sample International Contracts _83
\\Additional sources of information _83
\\Picture credits _84

# 前言

建筑的质量不仅来自于好的、创造性的设计，而且和建造的过程密切相关。因此对于建筑来说，从第一张设计草图到最后的结构和表面设计，质量都是一个贯穿始终的问题。招标是设计和施工之间的桥梁，界定了项目的要求。相关的承包人通过标书条款熟悉项目的细节，然后提交一份描述工作进展的标书，之后这份标书就会成为合同和实际建筑任务书的基础。从这个角度来说，作为建设开始前最后一个设计阶段的标书条款，是一个非常重要的设计组成部分。所以它的概念必须具有像设计或工作计划一样的精确性和可靠性。

由于学生和专业设计师的职业经验比较少，所以他们需要经过认真组织的、实用的、关于招投标类型、过程和单项服务的信息来帮助他们完成第一份标书。本书从这个非常初级的阶段开始，简单易懂地介绍和解释了整个过程。

首先，它描述了如何在标书中详细说明工作的内容和解释过程中的基本原则。它讨论了分包的类型、确定中标单位、时间安排以及非常重要的标书条款的风格。正如本书所展示的那样，对工作的说明不仅要有单纯的功能性描述，还要有非常详细的内容。读者可以看到招标过程中的各个组成部分，它们的意义何在，以及如何进行组织。在完成标书的过程中，这是要以很多的实践经验、实例以及简单而清晰的总结为支撑的。本书提供了开始一份合理而实际的投标工作之前所需要的所有关键背景和内容。

**编者：贝尔特·比勒费尔德**

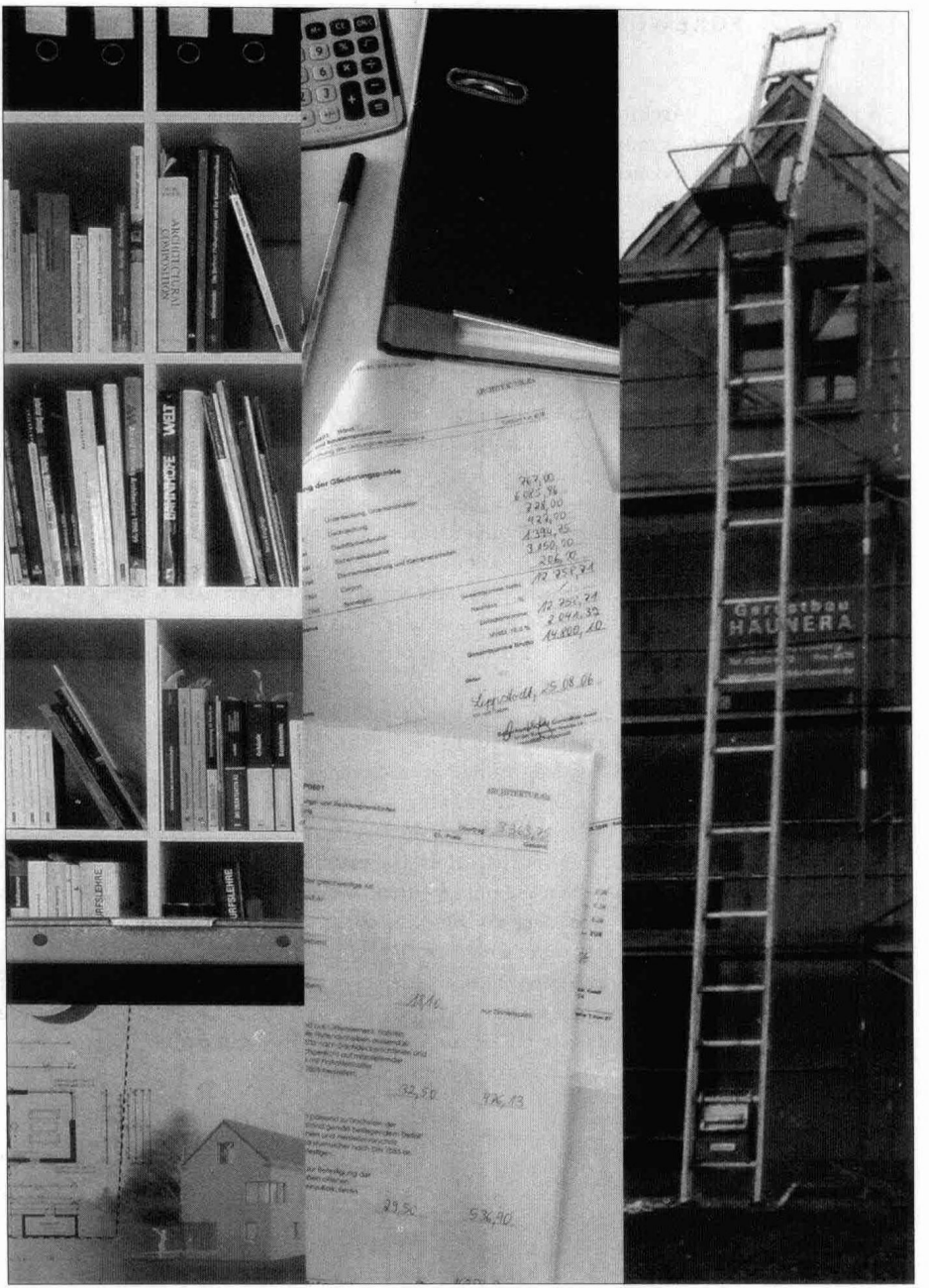
## FOREWORD

Architectural quality does not derive from good and creative designs alone, it must also be reflected in the built reality. So in architecture quality is a continual concern, from the first sketch via design and final planning to built structures and surfaces. Tendering is the link between planning and realization, defining the project requirements. The responsible contractors use the tender specifications to familiarize themselves with the details of the commission and can then submit a tender to carry out the work described, which then forms the basis for the contract and the actual building programme. In this way the tender specification, as the final design development stage before building starts, is an important planning component. It should therefore be compiled with the same precision and faithfulness to the concept as a design or working plan.

As students and professional beginners usually have little professional experience, they need carefully structured, practical information about tender types, the sequence of events, and descriptions of the individual services required to help them handle their first tender specifications. The present volume starts at this early stage and works through the subject matter with the aid of readily understood introductions and explanations.

First of all it describes how building services are specified in a tender, and explains the fundamental principles of the process. One important practical topic is organizing tendering for a building project. It discusses types of award, fixing award units, time planning and not least the style of the tender specification. The possibilities for describing the work required range from the purely functional to more detailed description, as will be shown. Readers discover the components of the tendering process, what they are there for and how they should be compiled in detail. This is supported by practical tips, examples and simple, clear summaries that help when drawing up a tender specification. The *Tendering* volume of the *Basics* series passes on all the key background and context needed for a sound and practical start on tendering work.

Bert Bielefeld
Editor



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## INTRODUCTION

From planning to realization

Planners – this includes architects, civil engineers and specialist engineers – have to involve another group of people by the end of the plan submission and planning permission process at the latest. The earlier phases of the process focused on communicating with the client and the authorities, but now planners have to turn their attention towards the firms who will be responsible for realizing the project: craftsmen and women, building contractors, specialist companies.

Tender content

All the information needed for realizing the project is provided to building firms as part of an invitation to tender, in the form of descriptions or drawings of the work to be done and services needed. The invitation to tender must contain all the information the bidding firms need to perform the necessary services and to submit a bid for the contract and, where appropriate, for planning the work.

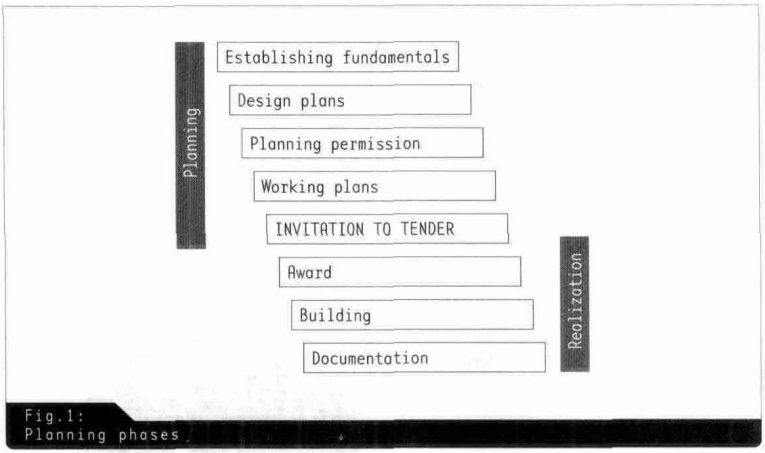


Fig.1:
Planning phases

\\Hint:
The tender becomes part of the contract that the client concludes with the building contractor. Planners can incur penalties for errors and omissions in the bid.

Outcome of the tendering process

The tendering process aims to attract as many appropriate bids as needed to form a broad view of the market. The invitation to tender is compiled by the planner and submitted to suitable contractors, who then calculate prices and submit a bid, which is binding. This is then examined by the planner and compared with other bids. The comparison gives the planner an insight into current prices and enables the client to commission the work from the bidder who has submitted the most reasonable offer for the particular project.

## TENDERING REQUIREMENTS

The invitation to tender collects all the requirements that have come to light in the planning phase. These requirements are essentially laid down by the client, but they may also relate to legal or technical matters. They can be categorized as follows: › Fig. 2

- Costs
- Deadlines
- Function
- Scope
- Quality

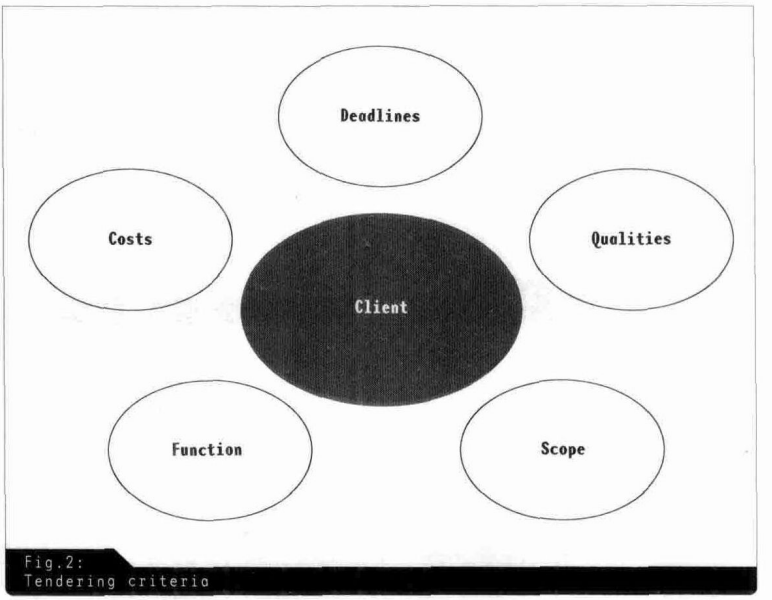


Fig.2:
Tendering criteria

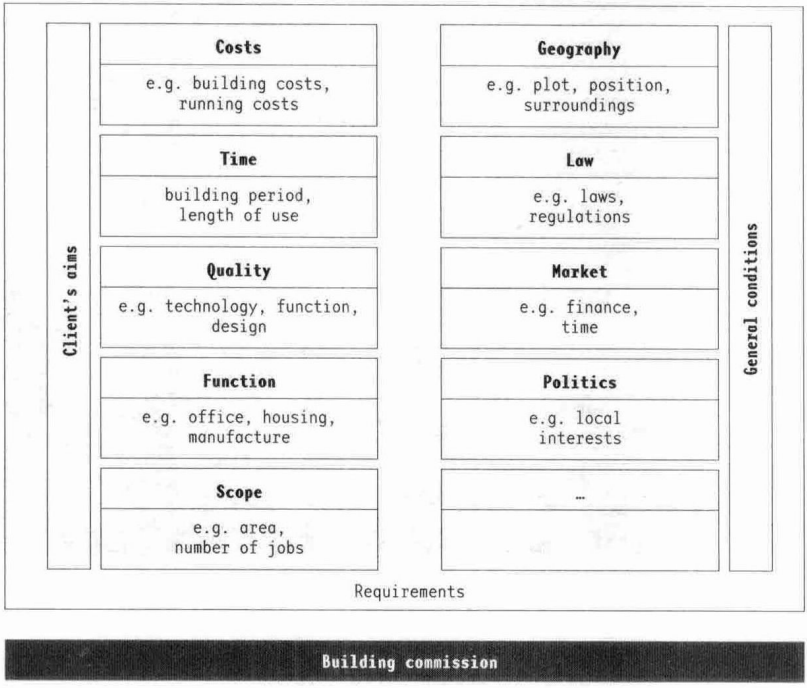


Fig. 3:
Definition of requirements

These criteria are used to fix the realization phase and to identify any planning services that are still required. › Fig. 3

### Costs

Cost range

In most cases cost is the key criterion for or against a realization bid, or even for or against the building project itself. Planners are obliged to spend a client's money on the project in the client's best interest. Planners generally have a prescribed budget, and must set all the costs arising from the building work against this. This will mean drawing up separate budgets for the various service packages or award units. › Chapter Organizing the tender, Fixing bid units

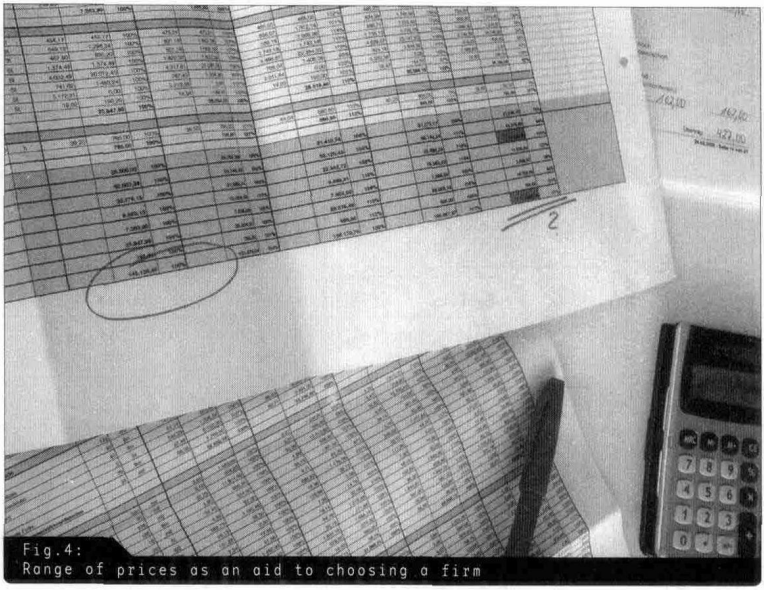

Fig.4:
Range of prices as an aid to choosing a firm

For the client, keeping to the prescribed budget is often crucial to the success of the entire project. The contractors' concrete bids are the first check on the planner's suggested costs in relation to real market prices.

\\Tip:
Bids submitted in response to the first invitation to tender are crucially important in establishing the client's confidence in the planner's costing competence. If even the first bids come in outside the planned cost framework, it is possible that the client, anxious about keeping within the overall budge, might make radical adjustments at an early stage that could affect all the other criteria, e.g. a marked reduction in the standards for the finished building.

Cost control

An overview of the individual budgets makes it possible for planners to control costs. If the bid for a particular unit is above the budget allocated to it, planners will have to cut the budget for other units and take this into consideration when drawing up invitations to tender, for example by reducing quality standards or the scope of the work required. Conversely, if an item comes in under budget, planners can, for example, include clients' requirements that had previously fallen outside the cost framework.

Cost guarantees

Clients can best ensure that costs are firmly fixed by attempting to eliminate all cost risks arising from unpredictable events during building, from market developments, and from submitting a series of individual tenders. One possible way of doing this is for a single contractor to take on the whole operation, which guarantees completion costs and deadlines.

› Chapter Organizing the tender, Fixing bid units, Package awards

### Deadlines

Clients will generally set firm deadlines, or at least express their wishes about them. Once deadlines are agreed, they are binding.

Deadline constraints

Constraints on deadlines arise mainly from the planned use of the building concerned. For example, completion dates, and thus possible moving-in dates, are crucially important for private clients building their own home, who need to give appropriate notice on their previous, rented accommodation. Renovation work in schools can often be carried out only in the school holidays. Here both the starting and completion dates are deciding factors.

\\ Tip:
Planners must establish that the client's ideas about deadlines are realistic. This affects the services that can be delivered by the firms involved, and the planners' own ability to deliver. Some events that occur in the course of building can be influenced only slightly or not at all. These include gaining permission from authorities, the weather, and some product delivery times.

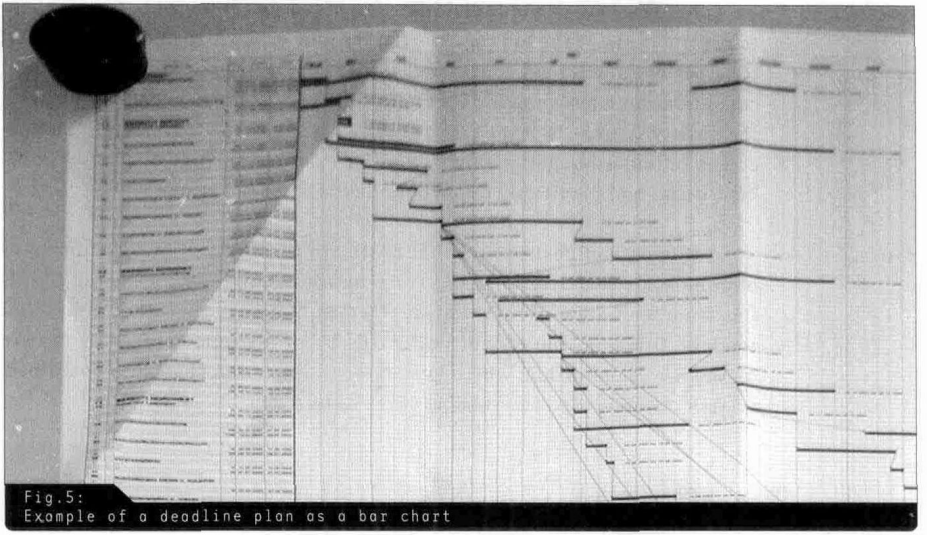

Fig.5:
Example of a deadline plan as a bar chart

Deadlines as a cost factor

Deadline requirements also influence possible construction processes and thus costs. The only realistic way of working faster is to employ a larger workforce, more machines and materials. Contractors could then be compelled to hire equipment or to complete the work in overtime, working at weekends or even at night. This will result in high bid prices, as the company factors the extra costs into the bid price.

Effects on tendering

Deadline requirements also affect the way planners submit their tenders. Robust and detailed planning involves investing a great deal of time, so planners have to consider whether they will be able to submit such plans at the appropriate time. If they cannot do so, they can transfer some of the planning services to the contractor, by defining some aspects in terms of functions, rather than in full detail. › **Chapter Organizing the tender, Tendering style, Tendering by function**

### Function

Realization range

The client's requirements establish the extent and bandwidth of the realization variants. For example, if a private client wants to buy land and build a home on it, this can be a terraced house, a semi-detached house or a detached house. Function is thus one of the factors determining the form the building will take. It is also possible to decide on particular building



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