estruturas:

concreto pré-moldado e aço

construções

pré-fabricadas de concreto

particularidades

Processo produtivo industrializado (mecanizado)

Melhores condições de controle de qualidade

Re-utilização de formas

Redução ou eliminação do cimbramento

Rapidez de construção (Montagem)

Canteiro de obras - Central de montagem (sem improvisação)

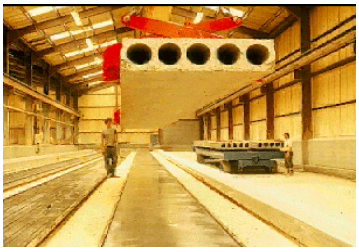
Uso extensivo de concretos de melhor qualidade

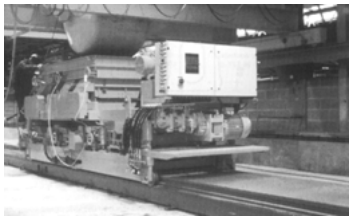
Uso extensivo de protensão

Otimização da forma das peças com o objetivo de redução de volume

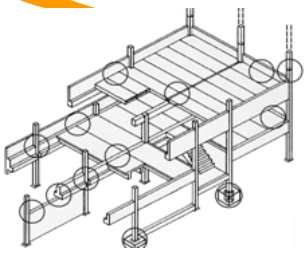
produção

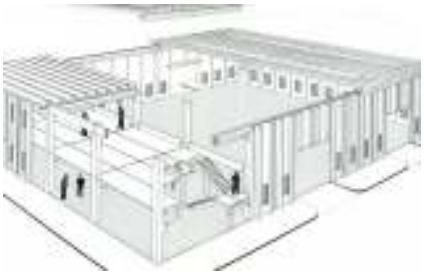
produção





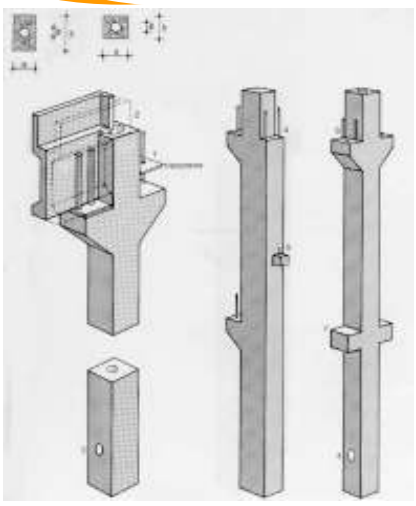
sistema estrutural e vedação

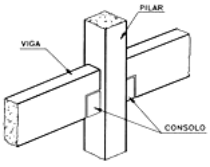


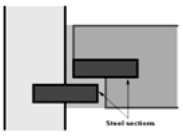


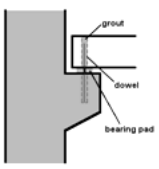
fundação

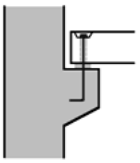
pilares



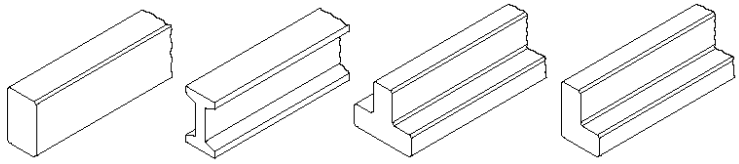




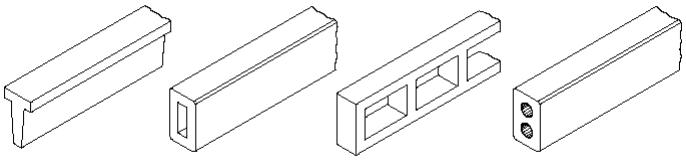




vigas

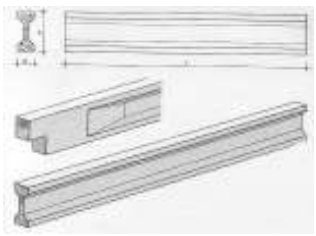


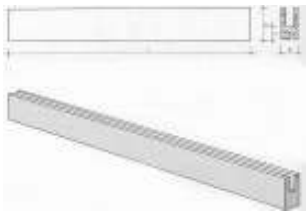
seção retangular | seção "I" | seção "T" invertido | seção "L"



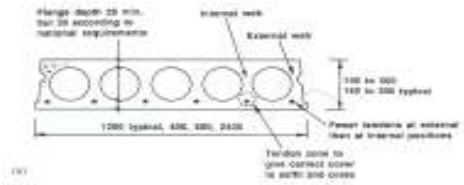
seção "T" | seção caixão | tipo Vierendel | seção retangular vazada

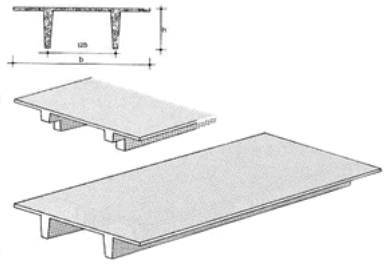
vigas



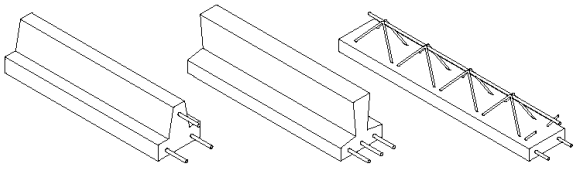


lajes

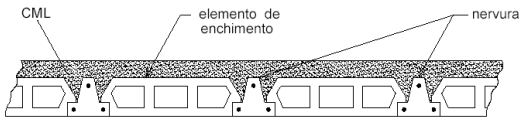


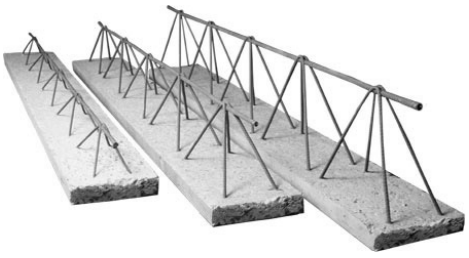


Laje-mista



a) tipos de nervura pré-moldada

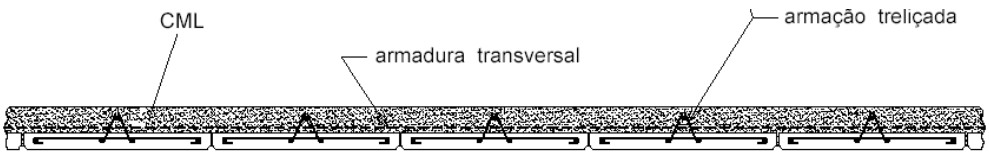




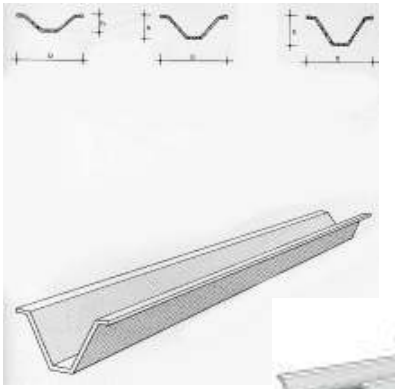
Laje-mista

Laje-mista

Laje-mista



telhas



painéis

painéis

Live & Lodge (SP)

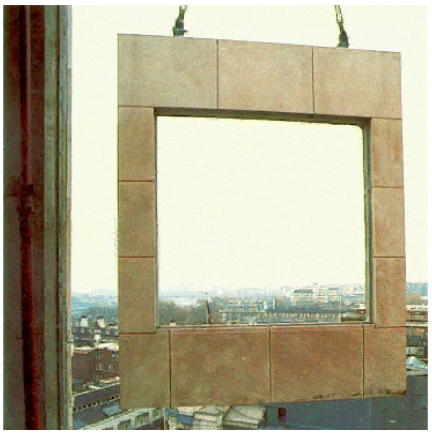
painéis

painéis

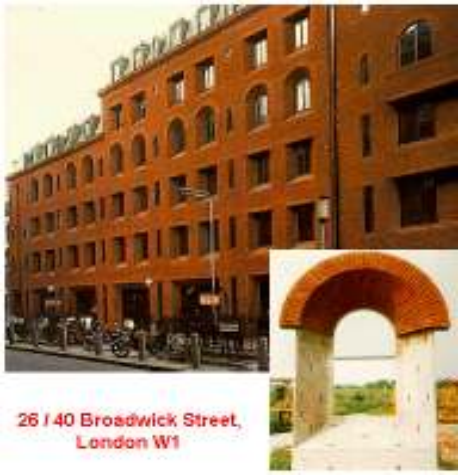
painéis

painéis

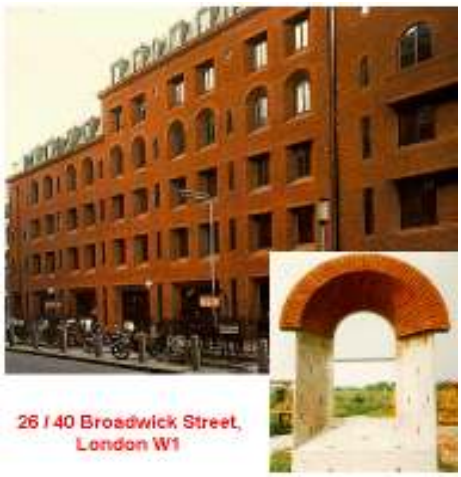
8 Salisbury Square, London EC4



painéis



painéis



painéis

sistema reticular

painéis

painéis

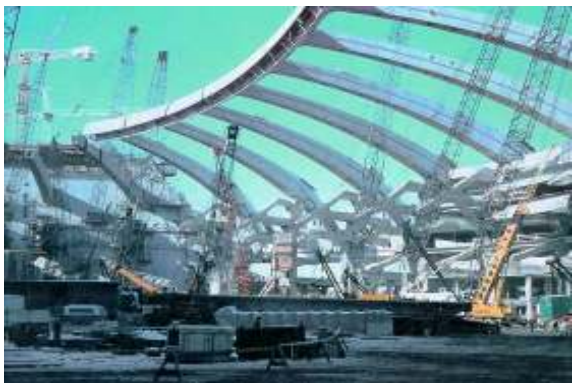
painéis

tilt up

galpões

arquibancadas e estádios

Rio de Janeiro
Sambódromo

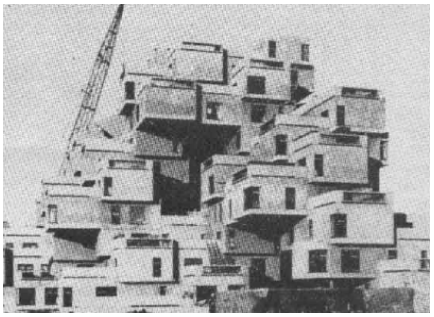


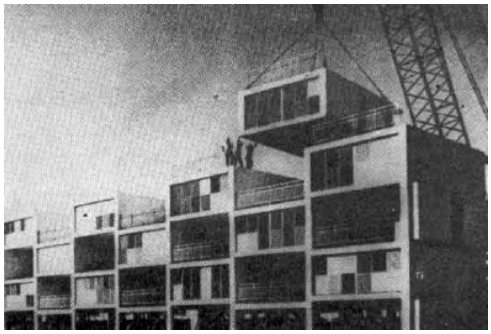
Montreal
(estádio olímpico)

pontes

galerias

box





box

box

box

box

sistema híbrido

construções
Brasil

Corporate Plaza
SP (2000)

Flat Meliá Confort Berrini
SP (2001)

construções
Brasil

Plaza Iguatemi
SP (2001)

CESUMAR

CESUMAR

CESUMAR

CESUMAR

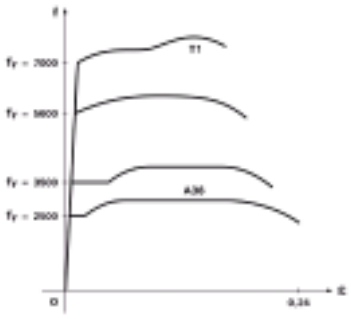
CESUMAR

CESUMAR

CESUMAR

construções metálicas

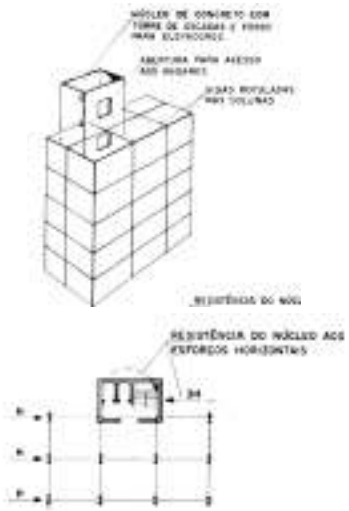
particularidades



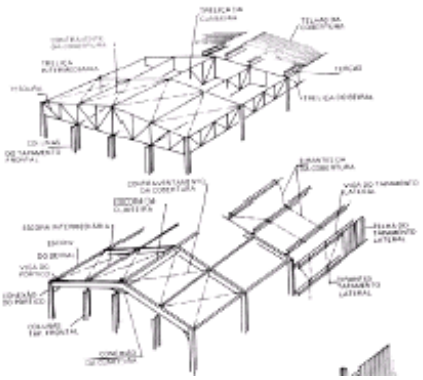
maior área útil dos pavimentos
compatibilidade com outros materiais
alívio de carga nas fundações

menor prazo de execução
racionalização de materiais e mão-de-obra
controle de qualidade
organização do canteiro de obras
precisão construtiva

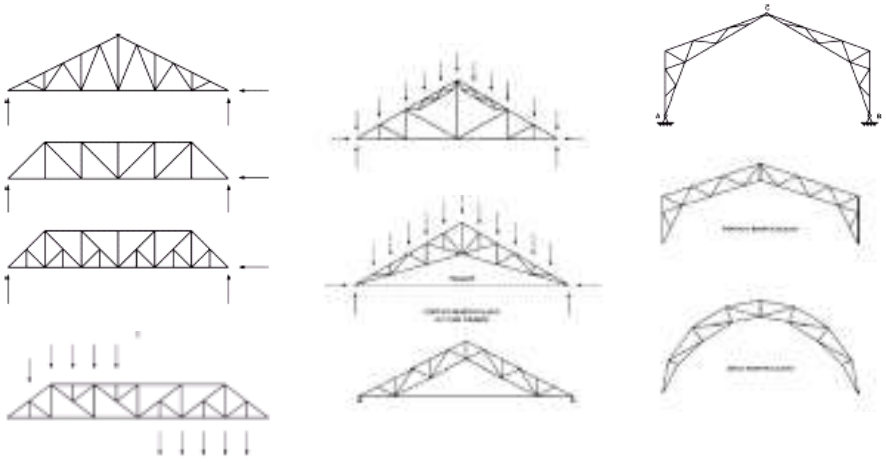
edificações



vigas
pilares
escadas
estruturas de cobertura

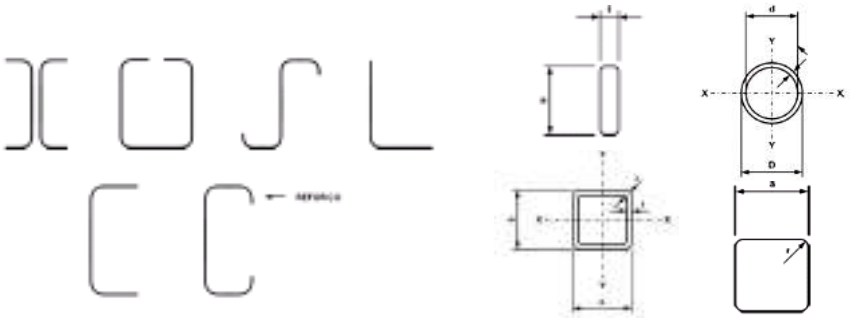


treliças

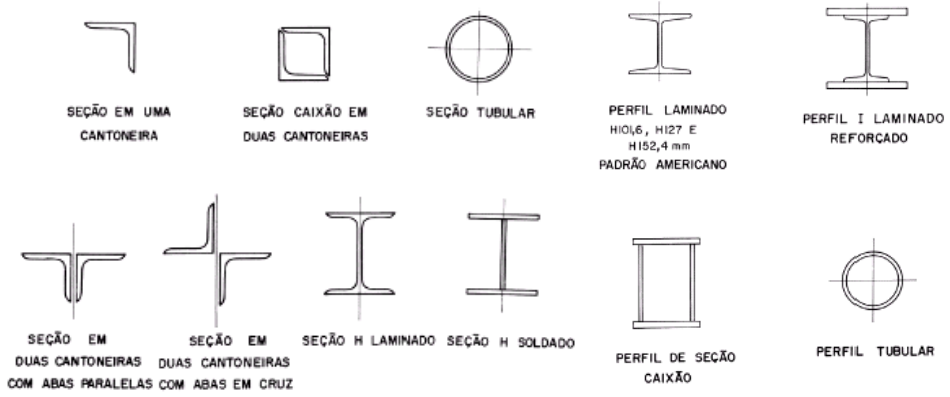


perfis

laminados
dobrados
soldados



perfis

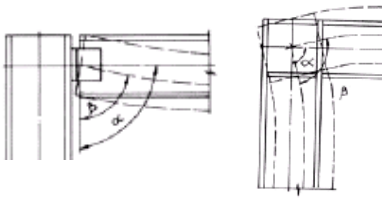


ligações

Tipos

- *Parafusadas*
- *Soldadas*
- *Rebitadas*

Quanto à rigidez



Pilar-Fundação

Viga-Pilar

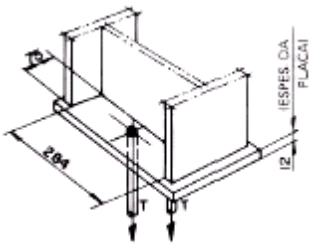
Laje-Viga

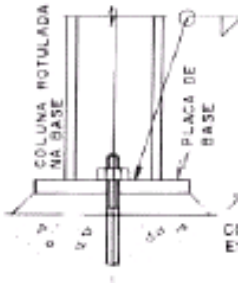
Pilar-Pilar

Viga-Viga

ligações

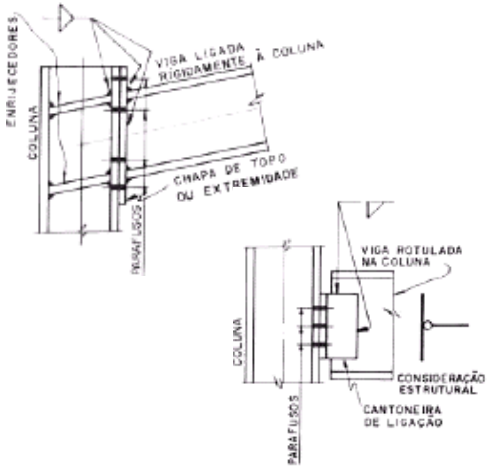
fundação - pilar





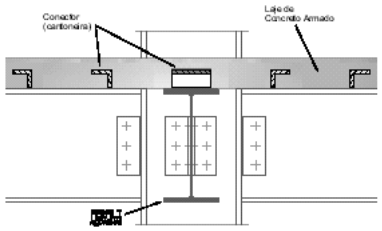
ligações

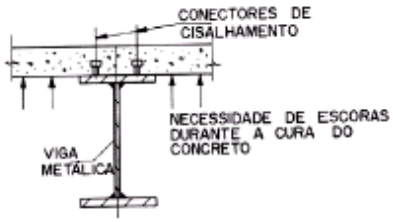
viga - pilar



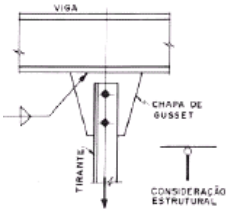
ligações

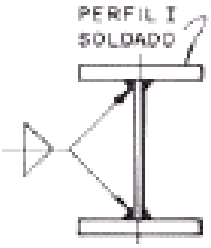
viga - laje

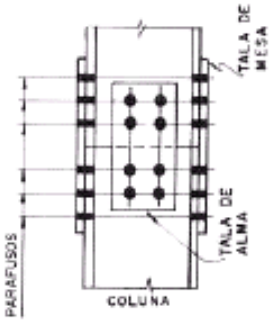


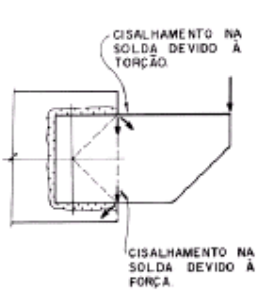


ligações









vigas

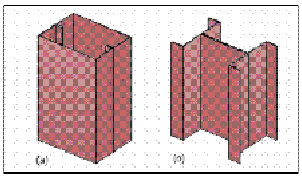
pilares mistos

Taipei 101

CDHU - SP

CDHU - SP

CDHU - SP



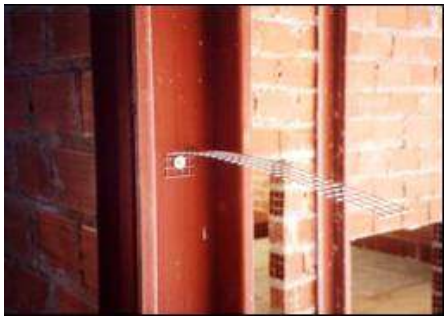
CDHU - SP

CDHU - SP

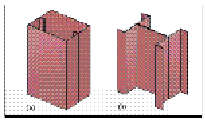
CDHU - SP

CDHU - SP

CDHU - SP



CDHU - SP



CDHU - SP

Galpão EESC

Galpão EESC

Galpão EESC

Galpão EESC

Galpão EESC

Galpão EESC

Galpão EESC

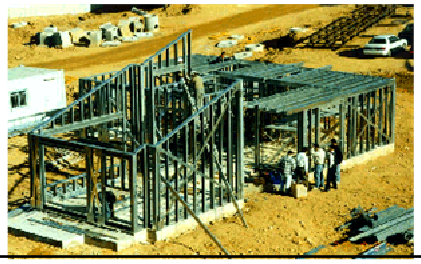
Galpão EESC

Galpão EESC

Galpão EESC

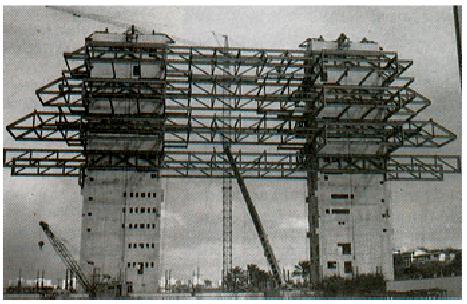
Dep. Produção
EESC

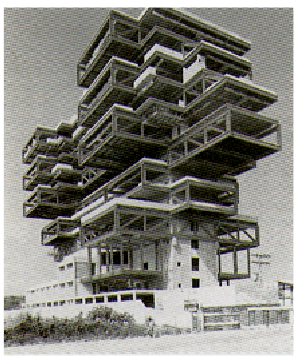
steel
framing

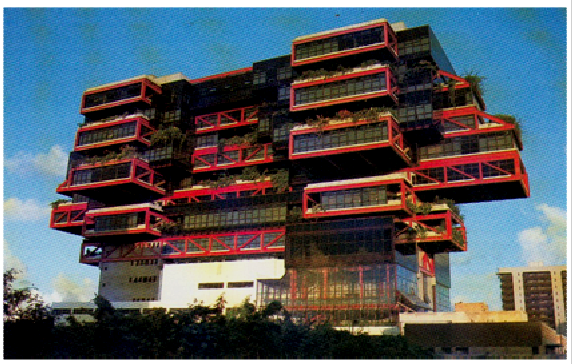


steel framing

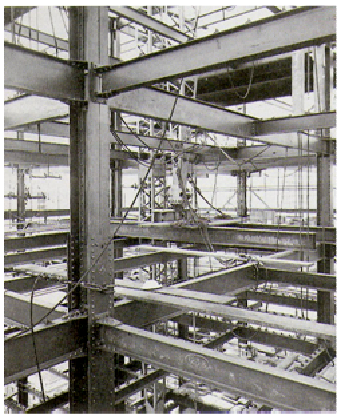
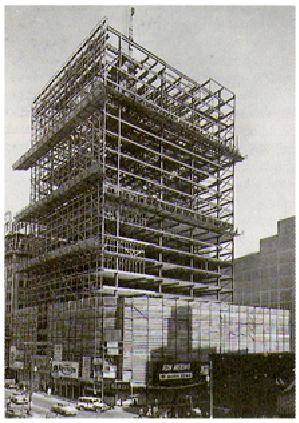
Edifício Casa do Comércio
Salvador, 1987



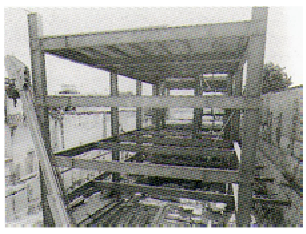
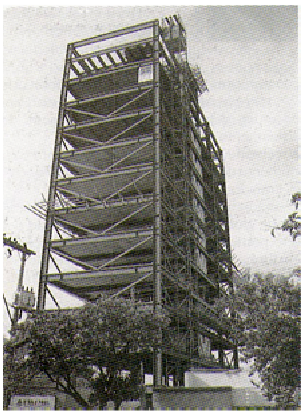




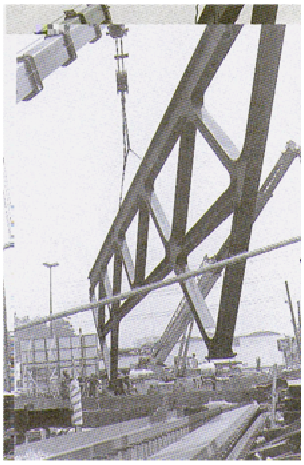
Edifício Palácio do Comercio
SP 1959

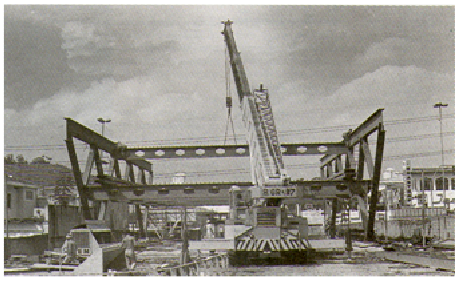




Edifício Saraiva Marinho
BH 1987


Sede ABM SP 1984





Espaço Estação
Curitiba 2004

Shopping Flamboyant – GO
2004






Iso Omena (Big Apple)

Shopping Center (dois hipermercados, mais de 100 lojas, uma biblioteca, uma capela, um cinema, um centropara jovens etc.)

FINLANDIA
Concluído em 2001
Arquiteto: Mauri Tommila
Área total: 161.000 m^2
Estrutura: colunas de aço
Fachada com dupla camada (1.000 m^2), painéis térmicos.



HTC Helsinki

5 prédios de escritórios

Helsinki - FINLANDIA
Arquiteto: HTC Architects
Engenharia estrutural: Oy Juva Engineering Ltd.
Área total: 36.000 m²
Estrutura: concreto, aço
Parede exterior, fachada: fachada com dupla camada (12.000 m²), painéis térmicos





Kone

Prédio de escritórios (KONE etc.)
FINLANDIA
Concluído em 2001
Arquiteto: Antti-Matti Siikala
Área total: 9.787 m²
Estrutura: mista, aço, Normek Oy
Fachada: fachada com dupla camada (5.000m²), painéis térmicos.

Swiss Re - London

Santiago Calatrava