

**BRAZILIAN FOUNDATION OF
WELDING TECHNOLOGY**



**BRAZILIAN PERSONNEL
CERTIFICATION IN WELDING**

PRESENTED BY: JOSÉ ALFREDO BELLO BARBOSA

CERTIFICATION DEPARTMENT MANAGER

JULY, 13th, 2004

**International Personnel
Certification Summit**

The 21st Century Solution to Workforce Competitiveness



PETROLEO BRASILEIRO S.A - PETROBRAS (BRAZILIAN PETROLEUM)



STRATEGIC PLAN(2004 - 2010)

AREAS:	INVESTMENT (US\$ BILLIONS)
PRODUCTION & EXPLORATION	32.1
REFINEMENT, TRANSPORTATION AND DISTRIBUTION	11.2

PROFESSIONALS REQUESTED:

- **PROJECT DESIGNER ENGINEER;**
- **PETROLEUM ENGINEER;**
- **COMPUTER ANALYST ;**
- **INSPECTORS FOR PAINTING, NDT, WELDING, PIPELINE, MEASUREMENTS;**
- **WELDERS, ETC...**

International Personnel Certification Summit

The 21st Century Solution to Workforce Competitiveness



- **FOUNDED IN 1982;**
- **LOCATED IN RIO DE JANEIRO, BRAZIL;**
- **NON-PROFIT ORGANIZATION;**
- **SINCE 1992 HAS BEEN ACCREDITED BY INMETRO (NATIONAL INSTITUTE OF METROLOGY, STANDARDIZATION AND INDUSTRIAL QUALITY) AS A PERSONNEL CERTIFICATION ORGANIZATION ;**
- **EN 45013; SET/89- "GENERAL CRITERIA FOR CERTIFICATION BODIES OPERATING CERTIFICATION OF PERSONNEL".**

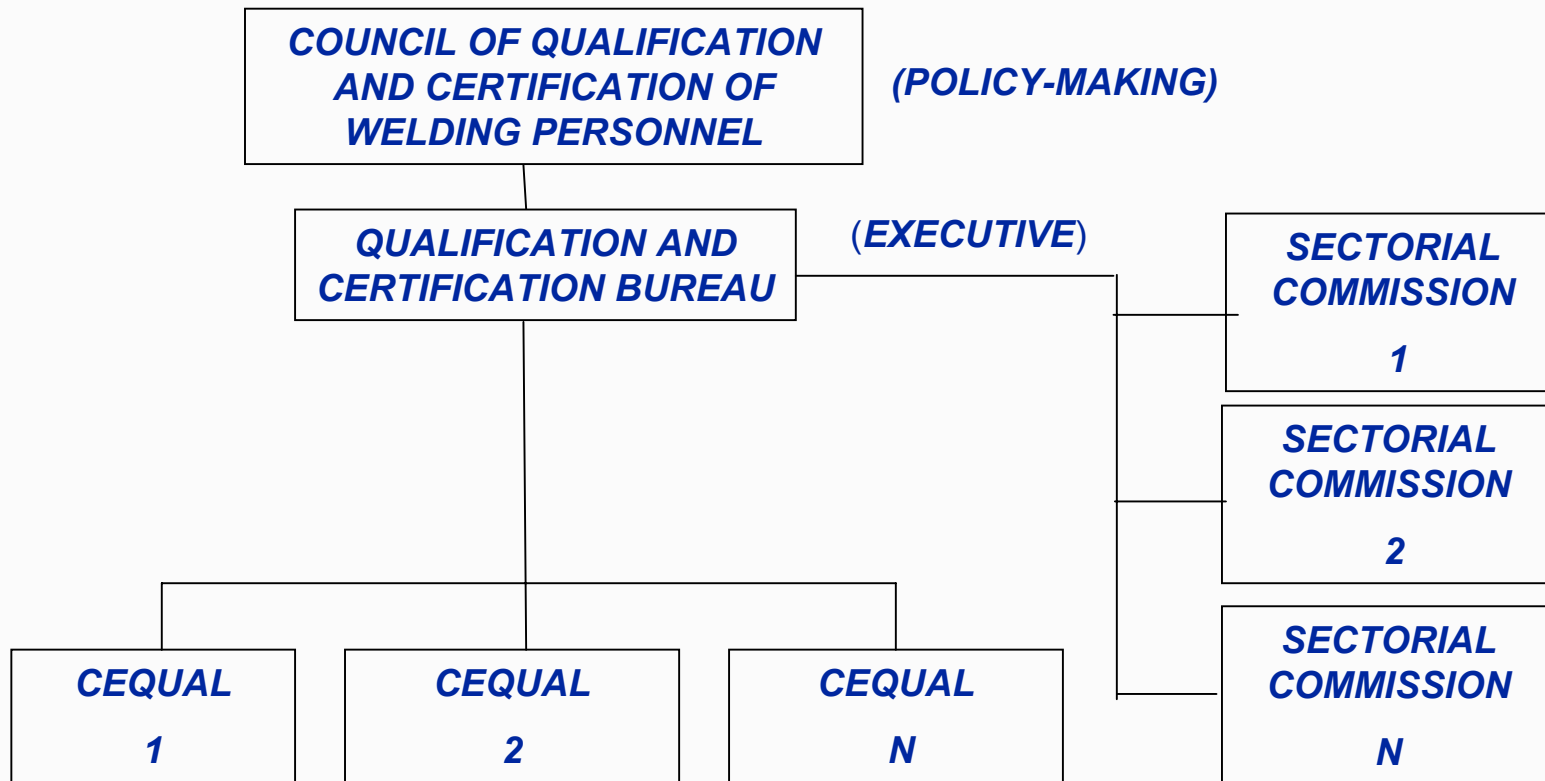


International Personnel Certification Summit

The 21st Century Solution to Workforce Competitiveness



ORGANIZATION OF THE CERTIFICATION SYSTEM



International Personnel Certification Summit

The 21st Century Solution to Workforce Competitiveness



PERMANENT MEMBERS OF THE COUNCIL

ONE REPRESENTATIVE FROM, EACH OF THE FOLLOWING ENTITIES/COMPANIES:

- ***BRAZILIAN ASSOCIATION OF NDT;***
- ***BRAZILIAN CENTRAL ELECTRIC COMPANY;***
- ***BRAZILIAN PETROLEUM;***
- ***BRAZILIAN NUCLEAR ENERGY ASSOCIATION;***
- ***NATIONAL-UNION OF INDUSTRY AND SHIP CONSTRUCTION;***
- ***NATIONAL COOPERATIVE OF INSPECTORS***
- ***THE PRESIDENT OF FBTS IN OFFICE***
- ***THE MANAGER OF BUREAU***



International Personnel Certification Summit

The 21st Century Solution to Workforce Competitiveness



THE BUREAU IS COMPOSED OF:

- **THE MANAGER OF THE BUREAU (FBTS)**
- **ONE REPRESENTATIVE OF EXAMINATION CENTRES OF QUALIFICATION(CEQUAL)**
- **THREE MEMBERS OF THE COUNCIL;**
- **THE COORDINATORS OF SECTORIAL COMMISSIONS.**



International Personnel Certification Summit

The 21st Century Solution to Workforce Competitiveness



SECTORIAL COMMISSIONS



THEY ARE THE CONSULTATIVE BODIES OF THE CERTIFICATION SYSTEM

THEY ARE COMPOSED BY PROFESSIONALS WHO WORK IN WELDING IN THE SPECIFIC SECTOR



International Personnel
Certification Summit

The 21st Century Solution to Workforce Competitiveness



EXAMINATION CENTRES FOR QUALIFICATION (CEQUAL)



***THEY ARE THE EXECUTING BODIES FOR THE
EXAMINATIONS, RECONIZED BY THE COUNCIL***

THERE ARE 2 CEQUAL IN BRAZIL:

- ***SEQUI/PETROBRAS - SÃO JOSÉ DOS CAMPOS/SÃO PAULO***
- ***SENAI - CENATEC DE SOLDA - RIO DE JANEIRO/RIO DE JANEIRO***



**International Personnel
Certification Summit**

The 21st Century Solution to Workforce Competitiveness



BRAZILIAN STANDARD -NBR 14842



**REQUIREMENTS FOR QUALIFICATION AND CERTIFICATION
OF WELDING INSPECTORS**

BRAZILIAN ASSOCIATION OF TECHNICAL STANDARDS(ABNT)

CB-42- WELDING

International Personnel
Certification Summit

The 21st Century Solution to Workforce Competitiveness



- ***BASIC TASKS AND RESPONSABILITIES OF WELDING INSPECTORS LEVEL 1 AND 2;***
- ***BASIC TECHNICAL KNOWLEDGE REQUIRED FROM A WELDING INSPECTOR;***
- ***EDUCATIONAL AND PROFESSIONAL EXPERIENCE MINIMUM REQUIREMENTS;***
- ***QUALIFICATION EXAM***



International Personnel Certification Summit

The 21st Century Solution to Workforce Competitiveness



TRAINING/COSTS



TRAINING:

- ***LEVEL 1 - 162 HOURS***
- ***LEVEL 2 - 210 HOURS***

COSTS:

- ***US\$ 750.00***
- ***US\$ 900.00***

**International Personnel
Certification Summit**

The 21st Century Solution to Workforce Competitiveness



EDUCATIONAL AND PROFESSIONAL EXPERIENCE MINIMUM REQUIREMENTS



LEVEL	REQUIRED PROFESSIONAL EXPERIENCE (MONTHS)					
	A	B	C	D	E	F
1	36	24	12	6	6	6
2	NO	48	36	24	12	6

A - COMPLETE ELEMENTARY EDUCATION(8Th GRADE)

B - COMPLETE SECONDARY EDUCATION

C - TECHNICAL COURSE IN MECHANICS, METALLURGY OR SHIPBUILDING

D- TECHNICAL COURSE IN WELDING

E - BACHELOR DEGREE OF SCIENCE IN ENGINEERING OR COURSE IN WELDING TECHNOLOGY

F - WELDING ENGINEERING SPECIALIZATION

International Personnel Certification Summit

The 21st Century Solution to Workforce Competitiveness



BRAZILIAN STANDARD - NBR 14842 QUALIFICATION EXAM



■ THEORETICAL TEST(TEST WITH 50 QUESTIONS)

PRACTICAL KNOWLEDGE

LEVEL 1

- VISUAL/DIMENSIONAL**
- WELDING CONSUMABLES 1**
- TECHNICAL DOCUMENTS 1**
- WELDING INSPECTION**
- HEAT TREATMENT**
- PORTABLE HARDNESS**

LEVEL 2

- PRACTICAL KNOWLEDGE FROM LEVEL 1**
- WELDING CONSUMABLES 2**
- QUALIFICATION**
- MACROGRAPHICAL EXAM**
- TECHNICAL DOCUMENTS 2**
- STANDARDS/CODE**

**International Personnel
Certification Summit**

The 21st Century Solution to Workforce Competitiveness



CERTIFICATION/COSTS



- **CERTIFICATION VALIDITY**
60 MONTHS STARTING FROM THE ISSUE DATE OF THE CERTIFICATE.

- **COSTS**
LEVEL 1 - US\$ 450.00
LEVEL 2 - US\$ 700.00

**International Personnel
Certification Summit**

The 21st Century Solution to Workforce Competitiveness



MAINTENANCE AND RENEWAL OF CERTIFICATION



- **MAINTENANCE**
AFTER 30 MONTHS THE INSPECTOR MUST SEND TO THE FBTS:
 - **SIGHT EXAMINATION;**
 - **OFFICIAL PROOF OF CONTINUING ACTIVITIES AS WELDING INSPECTOR (LOGBOOK).**
- **RENEWAL**
 - **SIMPLIFIED EXAM**
 - **IF APPROVED RENEWAL FOR ANOTHER 60 MONTHS**

**International Personnel
Certification Summit**

The 21st Century Solution to Workforce Competitiveness

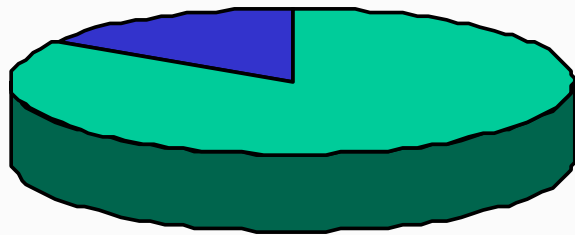


GENERAL DISTRIBUTION OF INSPECTORS

JUN/04



LEVEL 2
16%



LEVEL 1
84%

TOTAL = 1075

LEVEL 1 = 907

LEVEL 2 = 168

International Personnel Certification Summit

The 21st Century Solution to Workforce Competitiveness



REASON FOR CERTIFICATION

- **MARKET DEMAND (46%);**
- **TECHNICAL UPGRADE (45%);**
- **COMPANY REQUEST (8%);**
- **OTHERS (1%)**



International Personnel Certification Summit

The 21st Century Solution to Workforce Competitiveness

