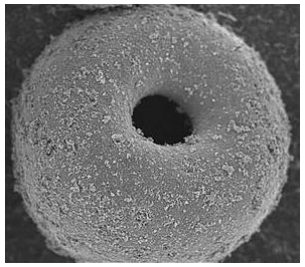
APLICAÇÕES E PESQUISAS

AT nanoestruturados

Aspersão Térmica de Revestimentos Cerâmicos Nanoestruturados....

"Thermal Spray Coatings Engineered from Nanostructured Ceramic Agglomerated Powders for Structural, Thermal Barrier and Biomedical Applications"

Maria Nalu Verona/PGMEC/UTFPB
RSCP/LABATS/DEMEC/UFPR

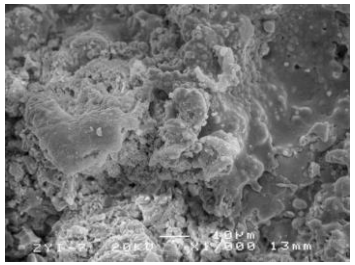


Lima e Marple (2006)

Processo de Aspersão por Plasma Spray de Revestimentos Cerâmicos Nanoestruturados

"Plasma spray coatings in different nanosize alumina"

Maria Nalu Verona/PGMEC/UFTPB
RSCP/LABATS/DEMEC/UFPR



Zeng *et al*. (2002)

THERMAL SPRAY REVESTIMENTOS, SÃO UTILIZADOS NOS SEGUINTES SETORES

Aerospace

Agricultura

Marítimo

Metal Trabalho

Papel e Imprensa

Bombas / Motores

Electronics /Computadores

Implantes

Petro Produtos Químicos

Geotérmica

Nuclear Power

Utilidades / Energia / Água /Esgoto

Golfe

Militar

Offshore submersas Pipe Lines

Plataformas de petróleo offshore

Refinarias

Railroad

Automóveis

Diesel

PRINCIPAIS APLICAÇÕES


3
4

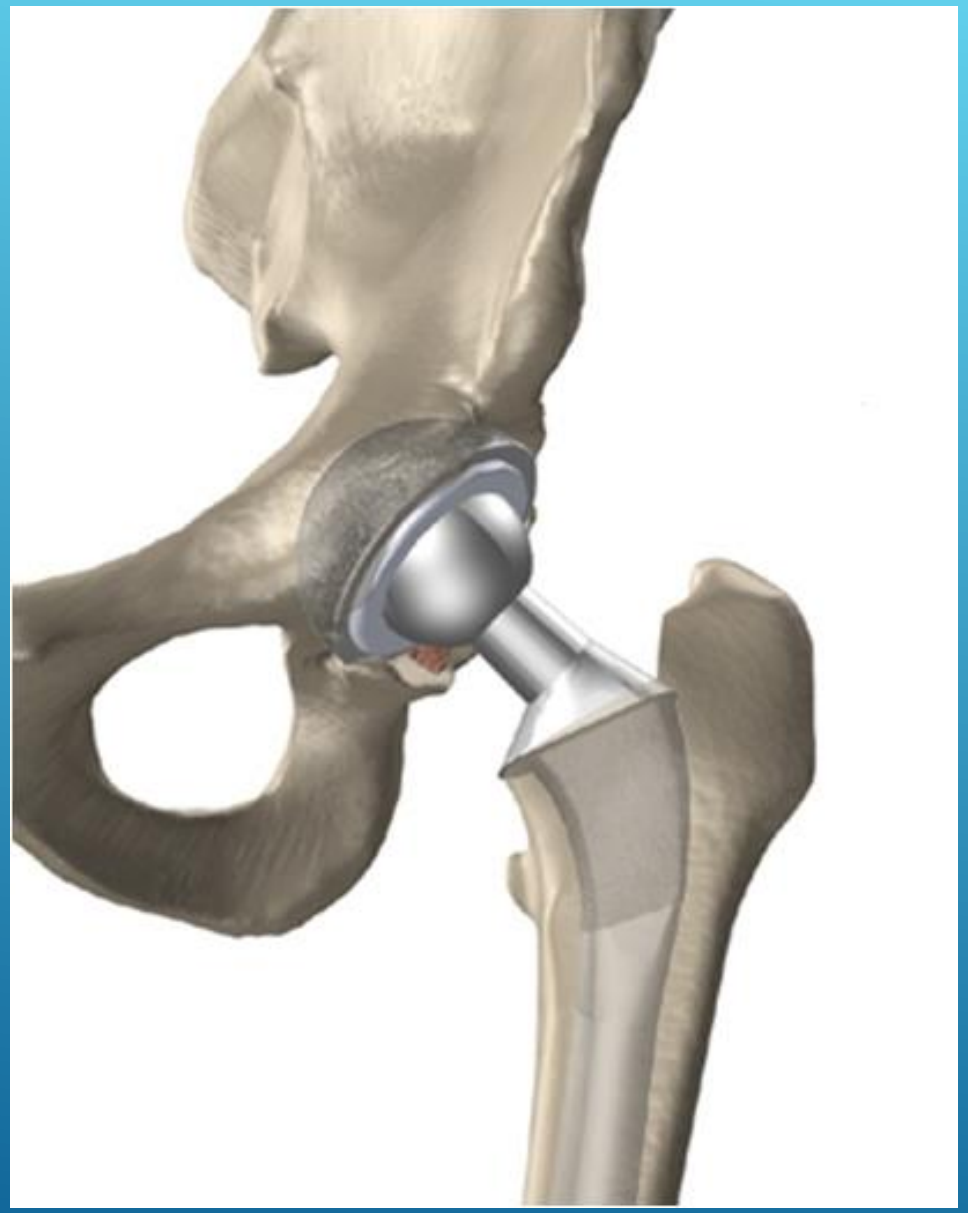

4

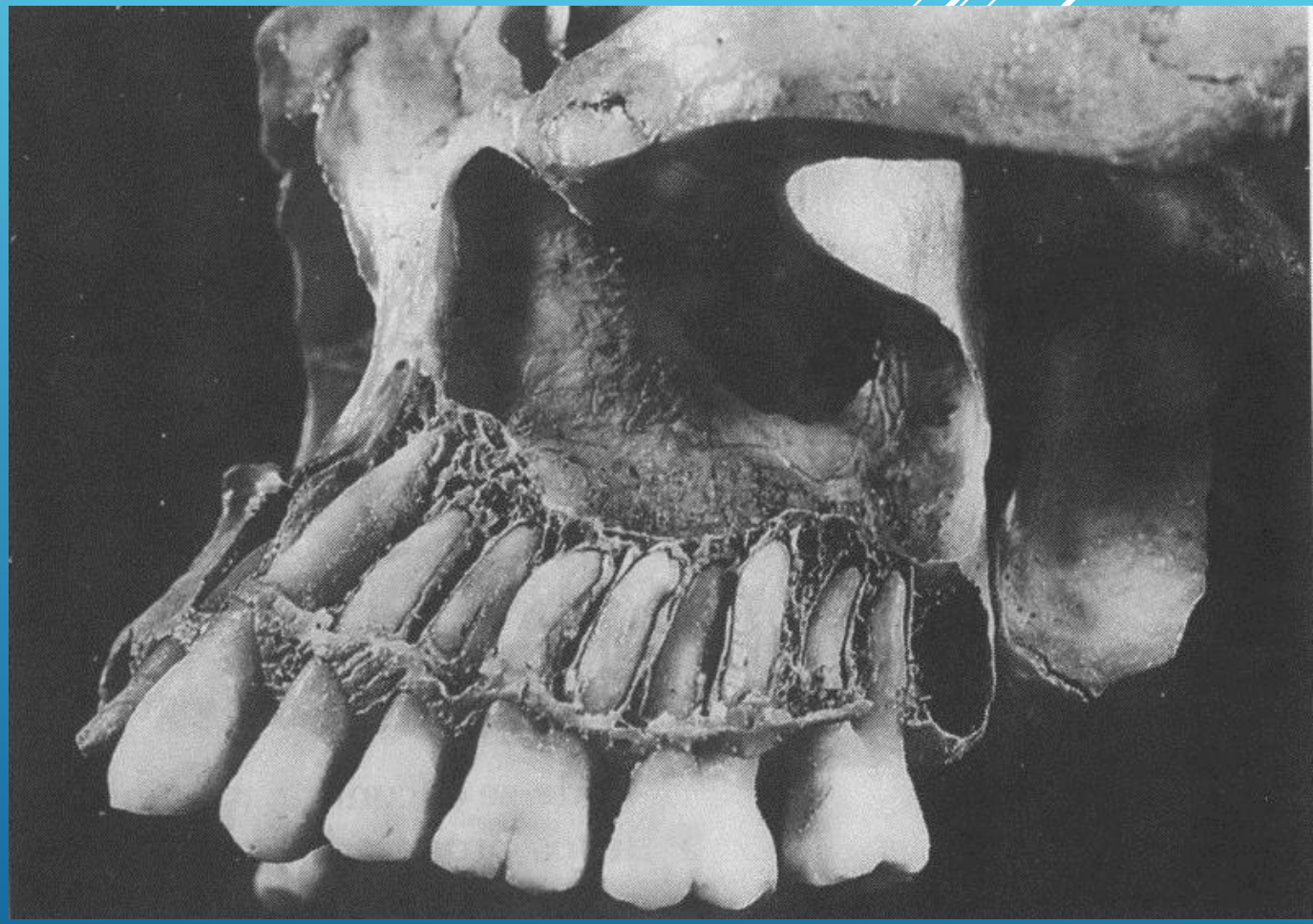

11


4 AT

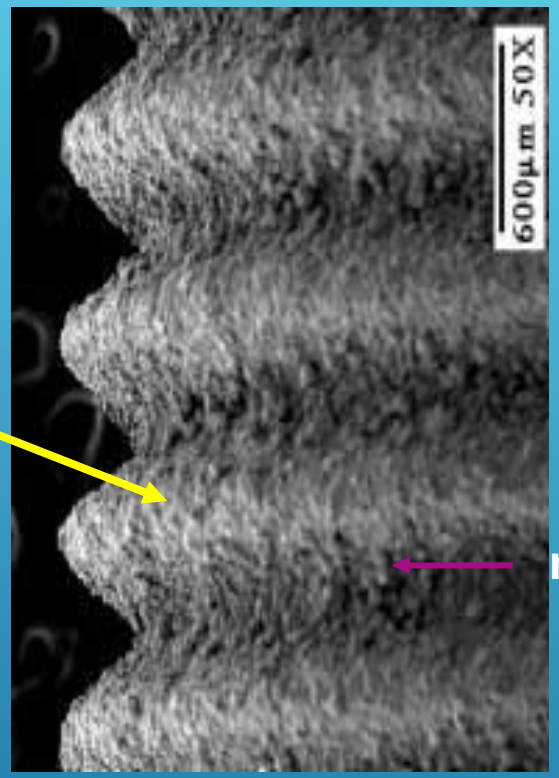

11
AT

IMPLANTES

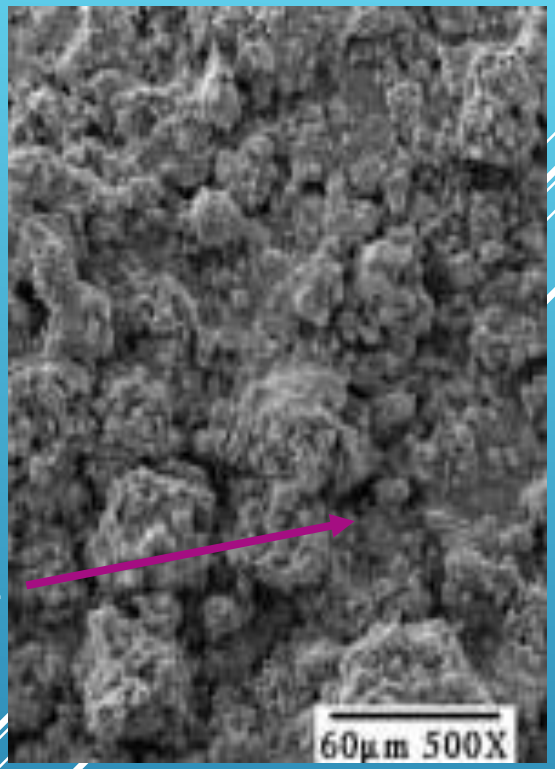


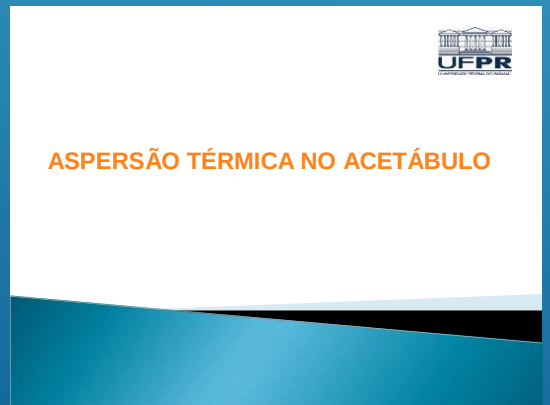


Revestimento de Ti



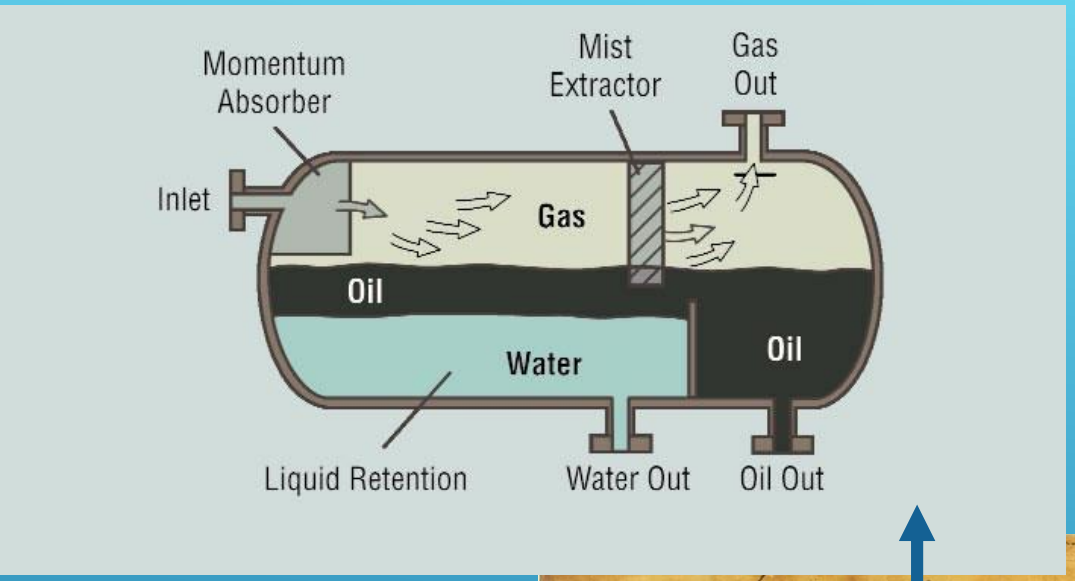
morfologia

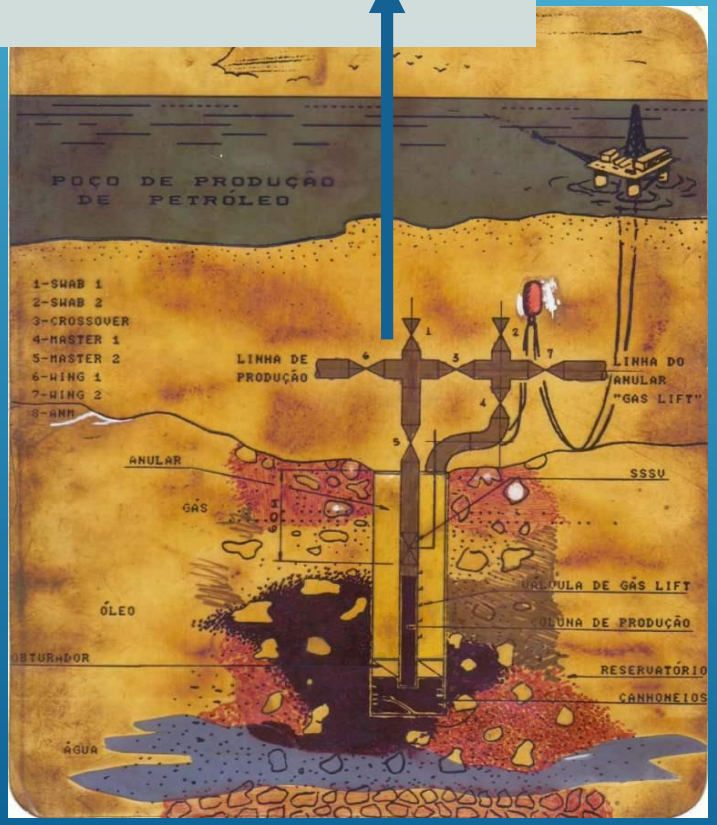


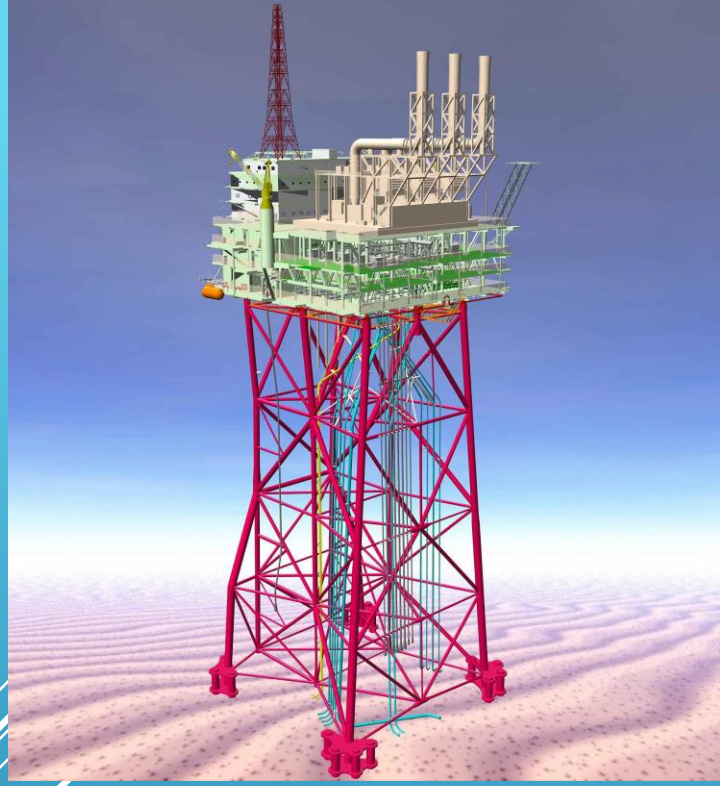


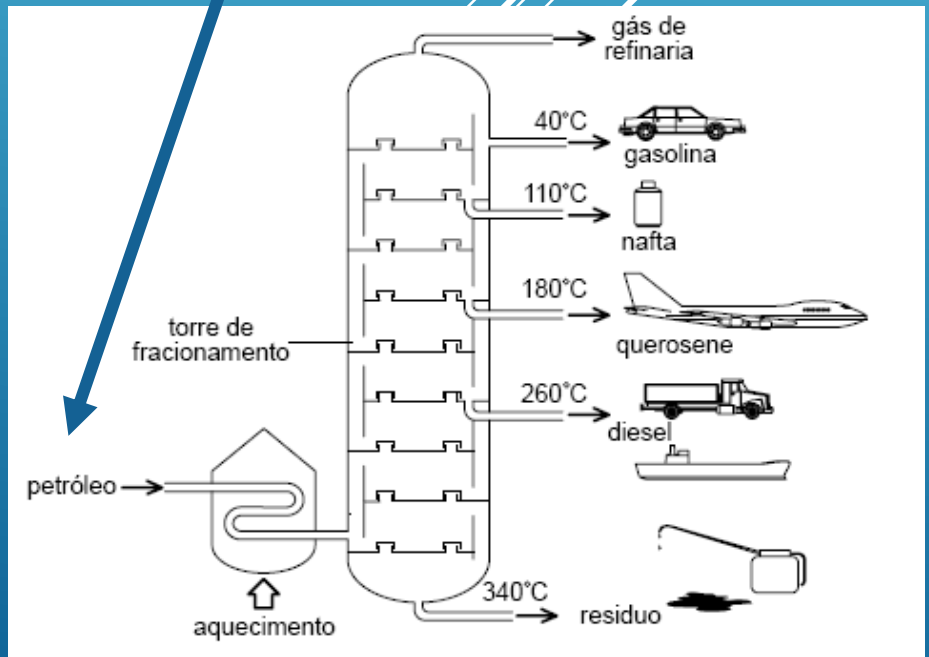
Paper Making Roll

HVOF spraying Tungsten Carbide / Cobalt Chromium Coating (WC/10Co4Cr) onto Roll for the Paper Manufacturing Industry


Momentum Absorber
Mist Extractor
Gas Out
Inlet
Gas
Oil
Water
Oil
Liquid Retention
Water Out
Oil Out


POÇO DE PRODUÇÃO DE PETRÓLEO
1-SWAB 1
2-SWAB 2
3-CROSSOVER
4-MASTER 1
5-MASTER 2
6-WING 1
7-WING 2
8-ANM
LINHA DE PRODUÇÃO
LINHA DO ANULAR "GAS LIFT"
ANULAR
SSSV
GÁS
ÓLEO
RESERVATÓRIO
CANHONEIOS
ÁGUA




gás de refinaria
40°C
gasolina
110°C
nafta
180°C
querosene
torre de fracionamento
260°C
diesel
petróleo
aquecimento
340°C
residuo

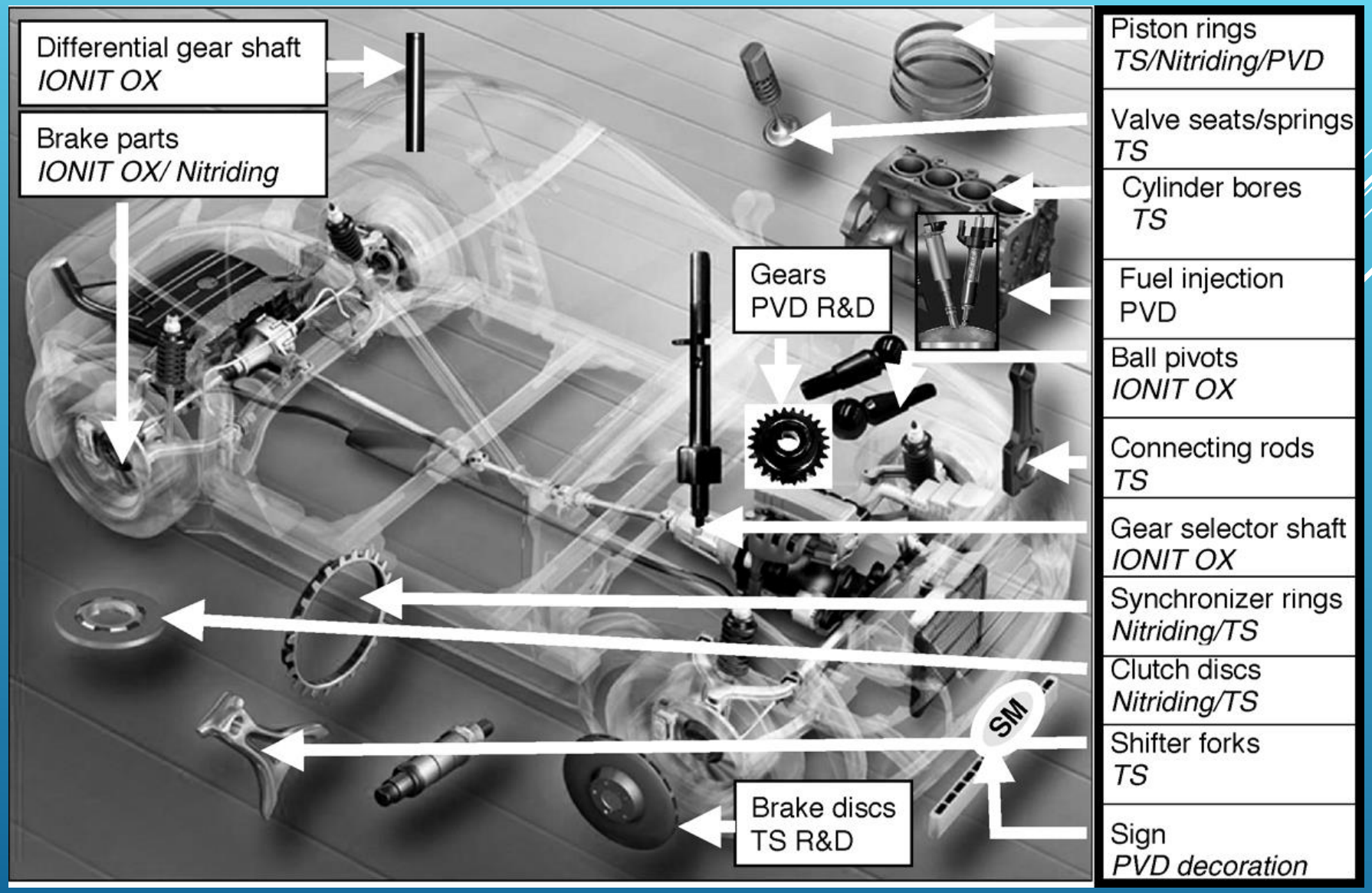

Differential gear shaft
IONIT OX
Brake parts
IONIT OX/ Nitriding
Gears
PVD R&D
Brake discs
TS R&D
SM
Piston rings
TS/Nitriding/PVD
Valve seats/springs
TS
Cylinder bores
TS
Fuel injection
PVD
Ball pivots
IONIT OX
Connecting rods
TS
Gear selector shaft
IONIT OX
Synchronizer rings
Nitriding/TS
Clutch discs
Nitriding/TS
Shifter forks
TS
Sign
PVD decoration

Figure 5: Typical Cold Sprayed Coatings

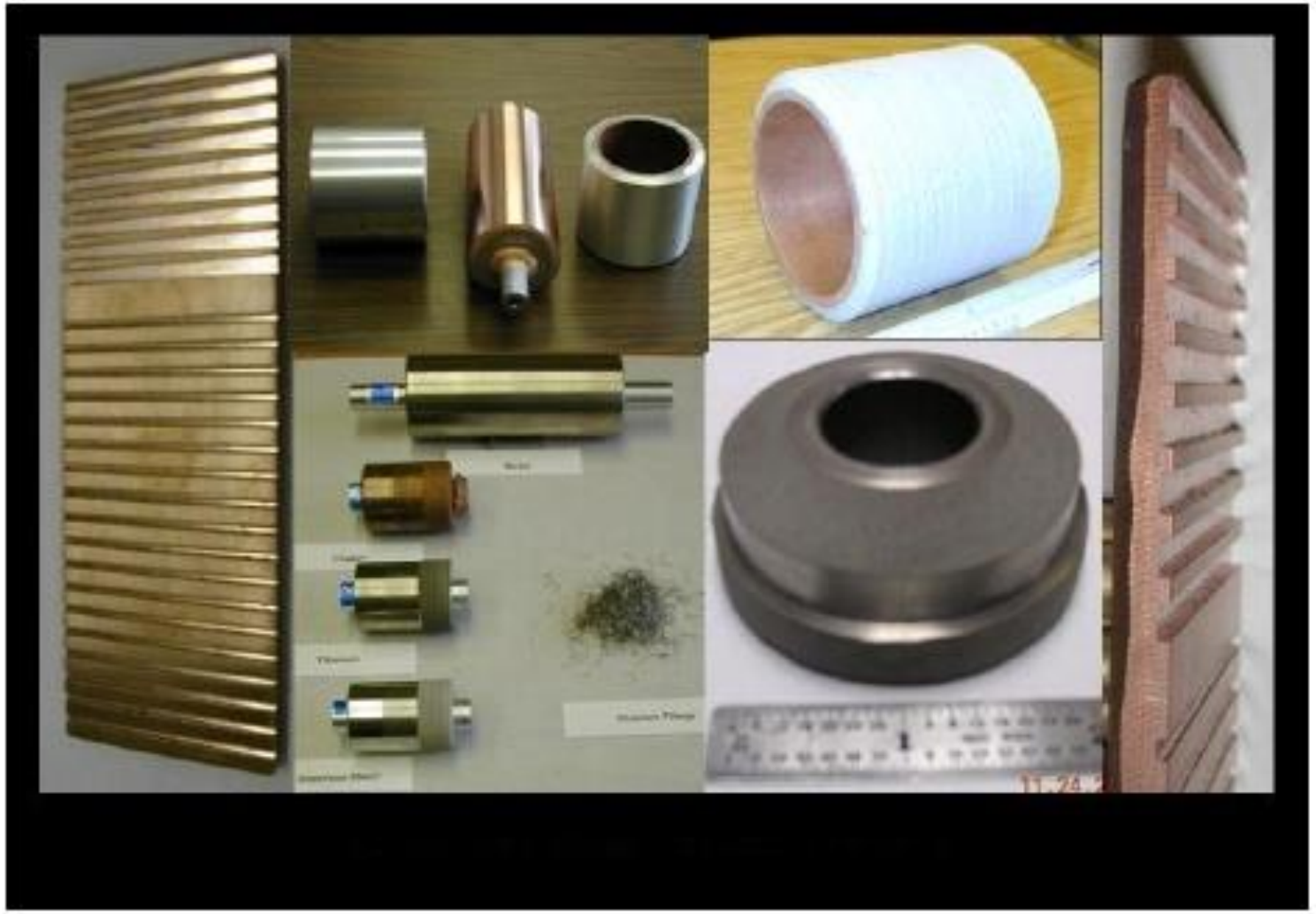


Figure. 6: Cold Spray Produced Bulk Forms

PRINCIPAIS LINHAS DE PESQUISA DA ASPERSAO TÉRMICA NO LABATS DA UFPR

- Otimização dos procedimentos de aspersão
- Desenvolvimento de revestimentos no processo “in situ”
- Desenvolvimento de Tecnologia de AT aplicado em implantes
- Novas aplicações da AT
- Desenvolvimento de revestimentos no in situ – difusão
- Desenvolvimento de novas ligas para AT

OBRIGADO

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