

DEEP BORE PLUMBER WRENCH

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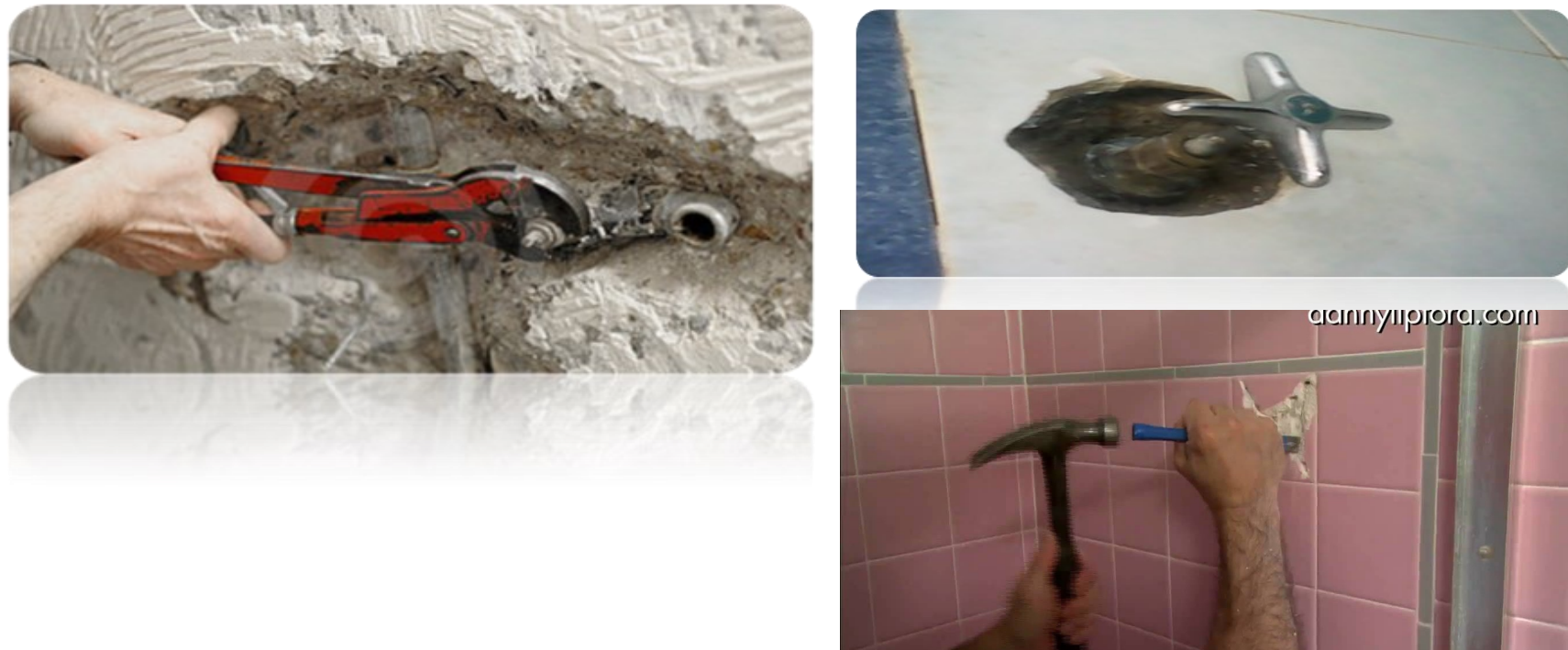
AZREN BIN AHMAD
MD-



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PROBLEM STATEMENT

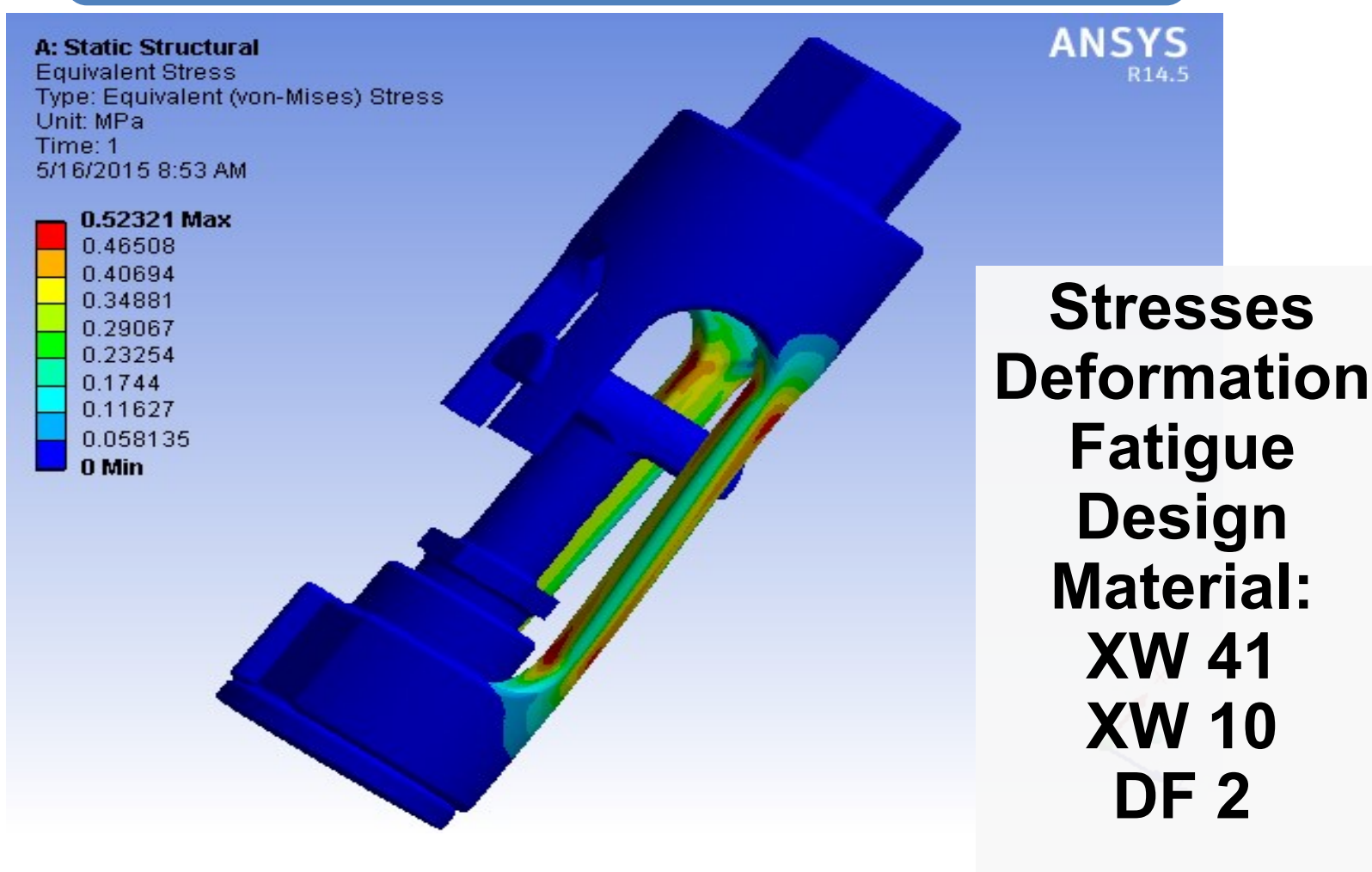


Increase Time AND Money
High Risk
Difficult to Clean Construction Area
More Dust... More Noise... More Work Load

CAD MODELING



R&D (FINITE ELEMENT ANALYSIS)



OPERATION COST AND TIME (SURVEY AND CUSTOMER FEEDBACK)

| BIL | ITEM | COST (RM) | TATOL COST |
|--------------------|--------------|------------------|----------------|
| 1 | LABOUR COST | RM15.00 per HOUR | RM30.00 |
| 2 | BROKEN TILE | RM1.50 pcs | RM6.00 |
| 3 | CEMENT | RM3.00 per KG | RM3.00 |
| 4 | BLACK RUBBER | RM0.50 | RM0.50 |
| TRADISIONAL | | | RM39.50 |

| | TRADISONAL METH-OD | SUBCON-TRACTOR | DEEP BORE WRENCH |
|------|--------------------|----------------|------------------|
| COST | RM39.40 | RM100++ | RM15.40 |
| TIME | 1-2 hour | 1 day | 3 min |

PROJECT OVERVIEW

Deep Bore Plumber Wrench is a product innovated to help the plumber or the maintenance technician of an open pipe buried in the wall to easily and quickly access any problematic area. This product consists of several key components of main body and socket. The main body of the wrench provides torque of the product to open the pipe that must be repair or replaced. Meanwhile, socket serves as a connection between the product and the "T" or "t" pipe-shaped heads.

RESEARCH AND PRODUCT DEVELOPMENT

To counter the mentioned problem in plumbing system, the project conducted was initiated with a few objectives, they are:

- To design new pipe wrench for plumber (CATIA)
- To determine best material for the Deep Bore Plumber Wrench (FEA, ANSYS)
- To carry out testings on the design to ensure quality and the effectiveness of the Deep Bore Plumber Wrench product

PRODUCT FEATURES

Deep Bore is very helpful corner pipe or a maintenance unit to open the taps, especially those embedded in the wall or have a narrow space. In addition, it save energy and it also helps reduce repair cost and time as well as avoid the damage to the wall surface or mosek.

PRODUCT APPLICATION AND POTENTIAL MARKET

Based on the anticipated needs that Plumber Wrench Deep Bore can fulfill, it will easily penetrate the market as a tool to help plumbers to easily open the pipes that are installed on wall. As so, based on the number of buildings, including homes, schools, office or factory and the difficulties faced by a plumber; the market potential of this "Deep Bore Plumber Wrench" is expected to be high.

- User Friendly (Best Ergonomics Device)
- Reduce Time AND Money
- Low Risk for Injury (Best Safety Device)
- Easy to Clean Construction Area
- No Pollution... Reduce Noise and Dust... Reduce Work Load

| BIL | ITEM | COST(RM) | TOTAL COST |
|-------------------------|--------------|----------------|----------------|
| 1 | BROKEN TILE | - | - |
| 2 | LOBOUR COST | RM 15 per-HOUR | RM15.00 |
| 3 | BLACK RUBBER | RM0.40 | RM0.40 |
| DEEP BORE WRENCH | | | RM15.40 |



INDUSTRIAL COLLABORATION:

- ~MARA-MTDC-UniKL Symbiosis
- ~Dream Venture Engineering SDN. BHD
- ~UniKL MSI Service Dept.

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Contact