

UNIVERSIDADE DE SÃO PAULO – USP
ESCOLA DE ENGENHARIA DE SÃO CARLOS – EESC

Disciplina: Técnicas de Escrita Científica em Inglês – SFI5869

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ATIVIDADE 02: MINI CORPUS FOR ABSTRACTS

1. BASE DE DADOS

As expressões apresentadas no tópico 2 foram extraídas dos resumos dos 10 artigos científicos utilizados na Atividade 01. Outros artigos, que auxiliaram a elaboração do Abstract da Atividade 03, eventualmente complementaram a pesquisa. Um banco de dados ainda maior é necessário para que todas as seções do Corpus sejam preenchidas.

2. MINI CORPUS

2.1 Resumo

2.1.1 Contexto

Quadro 1 – Estratégia 01: **declarar proeminência do tópico**

Expressão	Nativo
Pultruded composite structural members are being extensively used as columns for structural applications.	●
Glass fiber reinforced polymer (GFRP) pultruded profiles are being increasingly used in civil engineering applications.	●
Glass fibre-reinforced polymer (GFRP) angle is an emerging alternative material to conventional steel angle sections in transmission line (TL)/communication towers, because of their superior characteristics such as high strength to weight ratio, high tensile strength, better corrosion resistance, light in weight for handling and transportation, etc.	●
Fibre reinforced polymer (FRP) composites have become known for their specific advantages for civil infrastructure construction.	●
In past few decades, the interest in using pultruded fiber reinforced polymeric (PFRP) composites in construction applications has grown rapidly.	●

Quadro 2 – Estratégia 02: **familiarizar termos, objetos e processos**

Expressão	Nativo
The introduction of advanced polymer composites in the civil infrastructure has been...	●
The GFRP angle sections are used as leg, bracing, tie and redundant members in towers, in which these members are subjected to reversal of tensile and compressive forces due to wind. The compression strength is mainly governed by the buckling characteristics of angle sections.	●

2.1.2 Lacuna

Quadro 3 – Estratégia 01: **citar problemas/dificuldades**

Expressão	Nativo
Although they offer several advantages over traditional materials, such as *high strength, lightness and non-corrodibility*, GFRP profiles present low elasticity and shear moduli, which together with their slender walls makes them very prone to buckling phenomena.	●

Quadro 4 – Estratégia 02: **citar necessidades/requisitos**

Expressão	Nativo
,but for the last three decades there has been a growing awareness amongst civil structural engineers of the importance of...	●

Quadro 5 – Estratégia 03: **citar a ausência ou falta da pesquisa anterior**

Expressão	Nativo
Several previous studies addressed the *global and local buckling behavior of GFRP pultruded members under concentric loading*. However, little attention has been given to *the effect of small eccentricities, which may arise from material geometrical imperfections or construction errors*.	●
Published research indicates a lack of test results for single-angle- compression members *with low slenderness ratio*. In order to bridge this gap, *50 stocky single-angle struts* were tested.	●
There is lack of design criteria concerning the use of GFRP angle sections with bolted connections in lattice towers.	●
A literature search indicated a lack of test results regarding non-slender single angle struts...	●

2.1.3 Propósito

Quadro 6 – Estratégia 01: **apresentar o propósito inicial**

Expressão	Nativo
This study investigates...	●
This paper will outline the...	●
... is discussed.	●
Theoretical studies of the ... are presented.	●
A ... is presented	●
In this paper, ... is investigated and critical loads are experimentally determined.	●
This paper presents the results of an experimental program investigating *flexural creep* behavior of pultruded glass fiber reinforce polymer (pGFRP) specimens.	●
A ... is proposed.	●
An analytical model for *Euler buckling* is developed herein.	●
This paper reports the results of an investigation aimed at...	●
The paper addresses...	●
In the present study, experimental investigation is conducted on concentrically loaded GFRP angle sections with bolted connections in TL/communication towers.	●

Quadro 7 – Estratégia 04: **apresentar propósitos com a metodologia**

Expressão	Nativo
More specifically, we provide...	●
Coupon test data from ... pultruded GFRP profiles is used to generate longitudinal/transverse, tensile/compressive ultimate stresses, elastic moduli, minor/major Poisson's ratios and ultimate strains.	●
The paper focuses on *three* issues related to the prediction of buckling loads both from experimental data and from analytical and numerical approaches, viz. nonlinearity, anisotropy and inhomogeneity.	●
A *design equation for fiber reinforced plastic columns* is presented in this paper, based on *the interaction between local (flange) and global (Euler) buckling* observed during testing of the FRP columns included in this investigation.	●
Experimental data generated during this investigation are presented and used to validate the *interaction equation* and to obtain the *interaction constant*	●
This paper presents results of experimental and numerical investigations about the *structural behavior of GFRP pultruded columns subjected to small eccentric loading about the major (strong) axis.*	●
In this paper, the findings from an experimental investigation on the *flexural-torsional buckling behavior of pultruded glass-fiber reinforced polymer (GFRP) angle columns* are reported and discussed.	●

2.1.4 Metodologia

Quadro 8 – Estratégia 02: **citar/descrever materiais e métodos**

Expressão	Nativo
The first part of the study summarizes...	●
For this purpose, a total of ... specimens made of ... and either ... matrix are tested	●
Angle-section specimens are subjected to axial compression.	●
The experimental results are summarized in terms of the failure mode, critical buckling load...	●
Design equations available in FRP design manuals and analytical methods proposed in the literature are used to predict the ... load and compared to the experimental results	●
Experimental data obtained from full-scale buckling tests are reviewed and a method proposed for *estimating*...	●
Analytical studies based on ... are used to determine the ... and also to show the influence of ... on the buckling loads	●
Numerical studies using the finite element method in which *inhomogeneous material properties in the beam cross-section* are considered to give predictions of buckling loads of the beams.	●
Theoretical developments are based on...	●
In this study (a) ... were determined; (b) ... tests were conducted from which ... were obtained; and (c) results from the buckling tests were compared with the predictions of the ... which is shown to predict results reasonably well	●
To accomplish such goal, *three series of* ... were tested.	●
Results obtained from the experimental campaign were compared with analytical predictions and numerical simulations using (i) *the finite element method (FEM)* and (ii) *the generalized beam theory (GBT)*.	●
The program included the study of ...	●
The design rules for single-angle-compression members given in the *AISC Design Specification*, and the *ASCE Manual 52 for the Design of Steel Transmission Towers* are evaluated	●

2.1.5 Resultado

Quadro 9 – Estratégia 01: **descrever os resultados**

Expressão	Nativo
It was found that...	●
Furthermore, results show that...	●

Quadro 10 – Estratégia 02: **indicar os resultados**

Expressão	Nativo
The significance of the present findings with regard to *economic* solutions is discussed.	●
A number of observations about *testing methodology* and *data reduction techniques* are presented.	●
Good agreement is shown when comparing the experimental results and the FE models.	●
In general, a very good agreement was obtained between experimental data and analytical and numerical results.	●

2.1.6 Conclusão

Quadro 11 – Estratégia 01: **apresentar conclusões**

Expressão	Nativo
Closed form solutions indicate the following conclusions:	●

Quadro 12 – Estratégia 02: **apresentar contribuições/valor da pesquisa**

Expressão	Nativo
Although the paper focuses on ..., it raises issues which are relevant to the analysis of *pultruded material structures of all types*.	●
The intent of this study is to *demonstrate* a...	●