Report No.: 20195100901354

Science and Technology Novelty Search Report

Project name: Zhixin wear-resistant bucket teeth

Settlor: Chengdu Zhixin Refractory Technology Co., Ltd

Date: 2019 /6 /26

Novelty search agency (stamp):Sichuan Institute of Science and Technology Information

(National Level One Science and Technology Novelty Search Consulting Unit)

Search completion date: 2019 / 7 / 3

Ministry of Science and Technology of the
People's Republic of China

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VI. Conclusion of the search

After reading the original texts of the closely related documents and the abstracts of the related documents, it was found that there were literature reports on bucket teeth. The contents of the related literature reports are now compared with the search points of this search project as follows:

This search project is:

Developed a high-toughness and high-wear-resistant bucket tooth for excavators, the working surface hardness of the bucket tooth is greater than HRC67, and the tensile strength of the bucket tooth base material is greater than 1700Mpa.

In the scope of this search, the retrieved documents mainly include:

Name	Technical Parameters	
	Hardness	Tensile strength
This project	Bucket tooth working surface hardness is greater than HRC67	The tensile strength of bucket tooth base material is greater than 1700Mpe
Related literature 1 (Bucket teeth/Chengdu Zhixin Refractory Technology Co., Ltd.)	The Rockwell hardness of the inlay is greater than 50HRC, and the hardness of the tooth body is greater than 35HRC	/
Related literature 2 (Application of new low-chromium alloy wear-resistant steel in excavator bucket teeth)	Hardness: HRC 50~54	Tensile strength:1630~1810 MPa
Related document 3 (A method for preparing bucket teeth for mining excavators)	Hardness:HRC52~55	Tensile strength:Rm≥1782Mpa
Related document 4 (A wear-resistant cast steel bucket tooth and its preparation method)	Hardness:HRC55-57	Tensile strength:Rm≥1720MPa
Related literature 5 (Multi-alloy cast steel bucket teeth and their production process)	Hardness:HRC52~55	Tensile strength:Rm≥1700Mpa

The above-mentioned related literature shows that, in addition to the relevant reports of this project, there are many literature reports on high-wear-resistant bucket teeth in China. In the relevant literature (3), the tensile strength of mining excavator bucket teeth Rm> 1782Mpa, but its hardness does not reach HRC67 or above, which is not completely the same as the characteristics described in this project.

In summary, the conclusion of the new search is as follows:

There are no literature reports on high-toughness and high-wear-resistant bucket teeth for excavators in China that have the following characteristics at the same time, namely: the hardness of the bucket tooth working surface is greater than HRC67, and the tensile strength of the bucket tooth base material is greater than 1700Mpa.

Searcher (Signature):

Searcher title: Assistant Engineer

Searcher (Signature):

Searcher title: Engineer

Auditor (Signature):

Auditor title: Senior Engineer

(Special seal for scientific and technological novelty search)

2019/7/3

Science and Technology Novelty Search Report

Project name: Zhixin wear-resistant jaw plate

Settlor: Chengdu Zhixin Refractory Technology Co., Ltd

Date: 2021/1/27

Novelty search institution (stamp): Sichuan Institute of Science and Technology Information

(Sichuan High-tech Industry Financial Service Center)
(National Level One Science and Technology Novelty Search Consulting Unit)

Search complete date: 2021 年 1 月 4 日

Ministry of Science and Technology of the People's Republic of China

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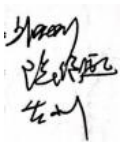
There are related reports on the organization and performance of the commonly used jaw plate materials for crushers, and the hollow jaw plates for jaw crushers. However, the specific technical characteristics and performance indicators are not exactly the same as those described in this novelty search project.

In summary, the novelty search conclusion is:

There is no literature report on high-toughness and high-wear-resistant jaw plates for crushers with the following characteristics in domestic public literature, namely: the tensile strength of the jaw plate base material is greater than 1500Mpa, and the hardness of the jaw plate working surface is greater than HR C 68.

Searcher(signature):
Searcher(signature):
Auditor:(signature):



Searcher title: Assistant Engineer
Searcher title: Engineer
Auditor title: Engineer

(Special seal for scientific and technological novelty search)

2021/2/4