

Trends of online google searches related to welding process

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Abstract: In this paper is reviewed google search as a helpful free instrument for statistics when preparing the state of art. It is applied to welding processes.

Keywords: GOOGLE TRENDS, WELDING, WELDING PROCESSES

1. Introduction

When preparing state of art or review of problem, review of industry, review of marker, etc. is useful to know the behavior of people searching in internet on key words. This information formed as statistics may give the researcher, regardless of which field the research is done – science, industry, bench marker, etc. information on trends in the researched field.

For the needs of development of Research possibilities for improving quality of welding technologies through real time processes analysis is needed to have better view of the needs of all welding users – welders, welding equipment and consumables manufacturers and traders, industry in which welding is applied, etc. This information can be obtained through various methods – questionnaires, official statistics, catalogues, official financial reports, industry reports. This information is based on the offered and contracted by manufacturers, companies and labs, but doesn't include the needs of the users. The needs of the users can be observed by their inquiries. Behavior of people in internet and more precisely their searches can give us the picture of welding users needs.

For research on people search behavior in internet is used free instrument Google trends[1]. This instrument gives statistics for searches on keywords for specific time periods. The information is presented in graphics. The count of searches is given in absolute values, where 100 is the maximum value of the searched keyword or searched keywords for the period and other values are proportional to the maximum value. With this instrument we can compare up to 5 keywords at once. The drawback is that the values are relative and we cannot view the real number of each search.

2. Search results of the most popular welding processes keywords

For the needs of the research are reviewed several keywords which are the most common and most used welding processes, their abbreviations and their reference numbers as specified in ISO 4063[2]:

Shielded metal arc welding (SMAW), also known as Manual metal arc welding (MMAW) – 111;

Submerged arc welding (SAW) – 121;

Metal active gas or MAG welding – 131;

Metal inert gas or MIG welding – 135;

Flux-cored arc welding (FCAW) – 136;

Gas tungsten arc welding (GTAW) or tungsten inert gas (TIG) – 141;

Plasma Arc Welding (PAW) – 15;

Resistance spot welding (RSW) – 21;

Resistance seam welding – 22;

Laser beam welding (LBW) – 521;

Electroslag welding (ESW) – 72.

On Fig. 1 is shown the comparison of searches between the different writing of welding process 111 – Shielded metal arc welding (SMAW), also known as Manual metal arc welding (MMAW) for the period of one year. Each point of the graphic shows the distribution as proportional values of each searched keyword by weeks.

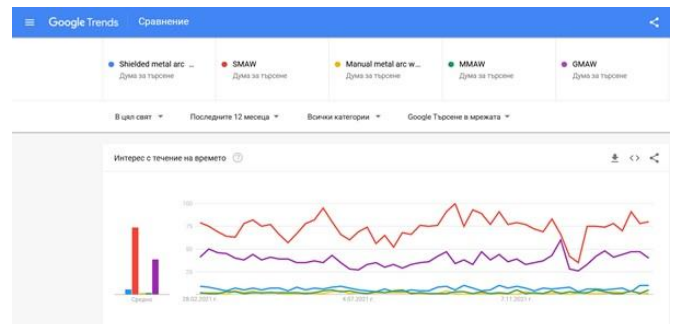


Fig. 1 Comparison of searches between the different writing of welding process 111 (SMAW) for the period of one year¹.

On Fig. 2 is shown the comparison of searches between Shielded metal arc welding, Submerged arc welding, MAG welding, MIG welding and Gas tungsten arc welding for the period of one year. Each point of the graphic shows the distribution as proportional values of each searched keyword by weeks.

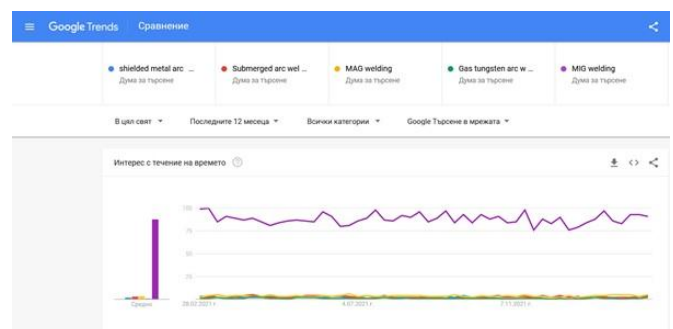


Fig. 2 Comparison of searches between Shielded metal arc welding, Submerged arc welding, MAG welding, MIG welding and Gas tungsten arc welding for the period of one year¹.

On Fig. 3 is shown the comparison of searches between Shielded metal arc welding, Submerged arc welding, MAG welding, Gas tungsten arc welding and Flux-cored arc welding for the period of one year. Each point of the graphic shows the distribution as proportional values of each searched keyword by weeks.

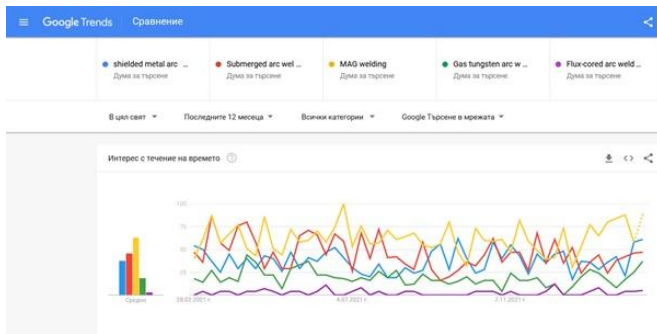


Fig. 3 Comparison of searches between Shielded metal arc welding, Submerged arc welding, MAG welding, Gas tungsten arc welding and Flux-cored arc welding for the period of one year¹.

On Fig. 4 is shown the comparison of searches between Plasma Arc Welding, Resistance spot welding, Resistance seam welding and Laser beam welding for the period of one year. Each point of the graphic shows the distribution as proportional values of each searched keyword by weeks.

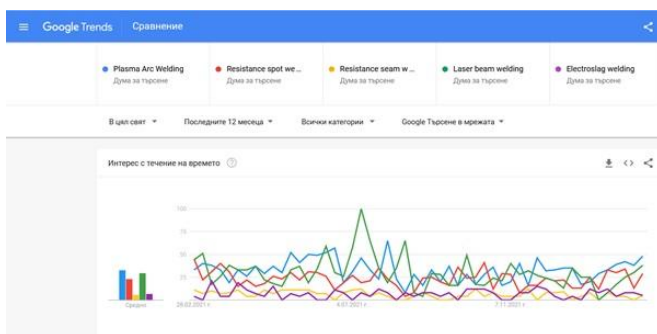


Fig. 4 Comparison of searches between Plasma Arc Welding, Resistance spot welding, Resistance seam welding and Laser beam welding for the period of one year¹.

On Fig. 5 is shown the comparison of searches between keyword “Welding” and the most popular keywords from Fig. 1 to Fig. 4 – “MIG welding”, “SMAW” and “Laser beam welding” for the period of one year. Each point of the graphic shows the distribution as proportional values of each searched keyword by weeks.

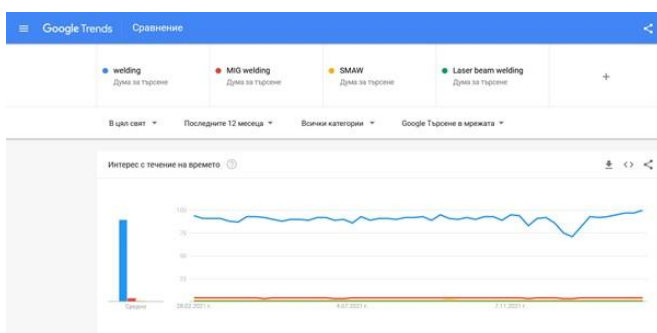


Fig. 5 Comparison of searches between keyword “Welding” and the most popular keywords from Fig. 1 to Fig. 4 – “MIG welding”, “SMAW” and “Laser beam welding” for the period of one year¹.

3. Conclusions

For the needs of Research possibilities for improving quality of welding technologies through real time processes is made analysis on searches with Google trends on the most popular welding processes for the period of one year. The results are given in graphical view and can be downloaded as .csv file. The values are proportional to the most popular search value of the searches in the period.

The review shows that the most popular key word is “MIG welding”

Acknowledgments

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4. References

1. www.trends.google.com
2. ISO 4063